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COME INTO THE GARDEN



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Inviting and warning against intrusion at one and the same time the arched gateway finds its proper place wherever there is a definite change in garden motif—and cannot be consistently introduced elsewhere in a design

COME INTO THE GARDEN

BY
GRACE TABOR

⁽¹¹⁾
AUTHOR OF

"OLD FASHIONED GARDENS," "THE GARDEN PRIMER,"
"WONDERDAYS AND WONDERWAYS THROUGH FLOWERLAND,"
"THE LANDSCAPE GARDENING BOOK," ETC.

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FOREWORD

It is appropriate to explain that in a book of this character there may be an appearance of inconsistency to the layman in the spelling of plant names. The nomenclature of Bailey's *Encyclopædia of Horticulture* has been followed, however, with the exception of the capitalization of the names when they appear apart from their botanical components. Personally, the author believes a page presents a more agreeable appearance to the eye when the names of such plants as may be referred to thereon are not treated as proper names; and that it may be read with greater facility and a less disturbed sense of values as a consequence. For those desiring to pursue further reading or study along the lines of any particular chapter, a bibliography of standard works dealing with each chapter subject will be found at the back of the book, just before the Index.

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Come Into the Garden



PART I

CONCERNED WITH MAN'S CONTRIBUTION

1—2

COME INTO THE GARDEN

“There is no ancient gentlemen but gardeners.”

—*Hamlet*.

CHAPTER I

THE GARDEN'S PLACE IN CIVILIZATION

RECOGNIZING the natural—and proper—tendency of those who practice any art to regard that art as peculiarly important, and as a consequence to exalt its service to the human race until it alone seems responsible for human progress, I am nevertheless obliged to assert that here is the one art without which the afore-said race could never have emerged at all from primitive conditions! Moreover, it is also true that without it—I am speaking to the broadest concept of it—mankind would speedily lose everything held dear, and would slip back into a condition very much more difficult and more dangerous to survival, as well as very much less worthy, than that occupied prior to the more or less well-known dawn of civilization.

For what, after all, was that dawn? Where did it break? And what were the first faint streaks in the sky? That man's first differentiation from the animal came with the fashioning of tools is sufficiently apparent not to be open to argument, of course; but neither this nor his subsequent rude architecture, nor even the discovery and use of fire can be said to have carried him very far forward on the long road he has traveled, since savages to-day employ as much. No, it was none of these.

It was with the first deliberate planting of a seed and cultivation of a plant that the darkness of the racial night began really to lift. And it is to the degree of his loyalty to this first great science-art that man is a success or failure in the world to-day!

Perhaps this seems the usual exaggeration of the devotee; but need I do more than point out the complete dependence of all creation upon a reliable and regular food supply, to prove my case? We have had too recent example of world food shortage to forget altogether how real a menace to every human being individually such shortage may become within an alarmingly short space of time, once production is abandoned. Wherefore we have writ large before us

so that he who runs may read, the great and universal obligation of stewardship, wherein each one of us shares, to promote and foster this art in all its branches.

The strongest of all instincts presumably is the instinct of self-preservation—which is the reason that the instinct to grow things lies so deep in the human heart; for the latter is actually merely an extension of the former. Some will say that they lack it altogether, I know; and I grant at once that they seem to. But of these—and to them—let me add that it has never been my experience to find anyone lacking it wholly, once they are given a chance to know what a garden really can be, and can do for them and to them as well as to the world in which they live and have their being. It is the pressure of other things that makes them impatient of Nature's slow processes, or total unfamiliarity with the work, or misconception generally that accounts for indifference. Interest never resists the appeal of the miracles of everyday in the garden, when this has an opportunity to assert itself.

The stewardship of which I have spoken demands that it be given this opportunity; and the active exercise of stewardship begins with the establishment of every home, whether it is

large or small. This is the truth that we ought everyone to realize and be governed by.

Yet it is not enough that we act upon an instinct of self-preservation alone, since this would induce each household to be merely food producers—which is neither practicable nor desirable at this late day. The analogy holds, here as elsewhere, between gardening and architecture; since we go a great deal farther now than to provide ourselves just with shelter—the bare necessity—in our exercise of the art of building, so we have arrived at a time when the finer aspects of the art of gardening must prevail. Our one great difficulty in this connection, however, is our tendency to disregard the early, real purpose of it and to devote ourselves to the finer aspects altogether; which is as if we built our houses without roofs because roofs are less interesting and decorative and generally appealing than side walls and doors and fenestration.

The suggestion made by Bacon in his essay on gardens has been quoted so often and universally that I long since foreswore its literal transcription, yet it sums up so much of all that there is to say introductory to the subject that it is almost impossible to do without it! He was so wholly right, and it is so true that, of the twin arts of building and gardening, the latter

represents—and requires—the greater perfection. But we have been building stately for long enough now to begin to garden finely; and we are moreover as a nation coming to that self-consciousness which inspires real effort in the arts, in the desire to express itself. Hence we are ready to produce something worthy in gardens—and when I say worthy I mean just that, in every sense and all senses of the word. We are ready not only to assume the obligations of our stewardship of such land as we acquire, but we are ready to spare no pains to embellish and make beautiful as well as to make productive. We are ready at last to justify possession of our bit of earth, inasmuch as we are ready to make the most of it in the fullest sense.

Distinct from its aspect as a civilizing factor, therefore, is the garden's aspect as an evidence of the progress of civilization. It established it in the first place; and now it is the measure by which it may be gauged. Crude people garden crudely—this is as true of individuals as it is of races—while people of high culture and highly evolved discrimination and sense of harmony, garden finely. By their gardens indeed shall we know them; for a garden is surely the fruit of its creator's mind and will reveal the inner man as nothing else he can make. Which is an-

other striking thing about them—they will not deceive nor give out a false impression. Hence if it is desired to produce a certain impression through the home and its gardens, it is necessary to start in the very heart of things and become what that impression signifies. In no other way will it be possible to convince; we must be, in other words, what we want our garden to make us seem.

Happily this works both ways; for the garden itself is the best means of becoming genuine—of getting right oneself. Just why this is so does not always appear on the surface of things—but I suspect it is because everything dealt with in the garden is so genuine, and because it is in itself such an elemental occupation. There is virtue in earth contact and there is inspiration in the observation of plant unfoldment, whether we are mystical, empirical, or rationalistic in our temperament—whether we believe it or not, in short. And what is more, it *works*, whether we believe it or not. So we have only to give it the chance; the rest will come.

In its application to the individual and the individual garden all that I have just said resolves itself into one sound maxim for a starting point, namely:—the garden is at once the opportunity and the achievement, the cause and the

result. If this is understood nothing more need be said in urgency of its claims; the rest will come along in due season and order—helped perhaps a little bit by the further content of this volume. At least I hope so!

“A garden ought to lie to the best parts of the house, or to those of the master’s commonest use, so as to be but like one of the rooms out of which you step into another.”
Of Gardening.—SIR WM. TEMPLE.

CHAPTER II

POSITION AND PLAN OF THE HOUSE

THERE are three points under which the location and the layout of a dwelling should be considered. These are its exposure for summer and winter comfort; its place on the ground with regard to the greatest economy and conservation of the same; and the distribution of the space thus saved and conserved for the greatest degree of efficiency and beauty. All these three are almost, if not quite, equally important. If there is any difference between them, it is indicated by the order in which they are named—but do not let this minimize the importance of the last nor magnify the importance of the first. To each should be given such a measure of consideration and careful thought that when a plan is finally adopted and

the work begun, it may be with the certainty that the very best is about to be accomplished under all three heads.

Every plot of ground, however great or small it may be—excepting the city lot which, leaving no room whatsoever for choice, is of course not now under consideration—affords just one “best” place for the house which is to take shape upon it. And the location of this anywhere but in or upon this best place, is a misfortune which no amount of ingenuity can ever really overcome.

But the owner of the average building plot never suspects it of possibilities of even the tamest sort; consequently such a plot is never treated expectantly, as it were. What it has been, it is—and apparently is to go on being, time without end. It faces north, south, east, or west according to the direction of the street whereon it fronts; hence the dwelling which eventually occupies it also faces north, south, east, or west accordingly. It fronts with the front, has a kitchen at the back and a porch displayed. Thus, limited by custom and convention and the lack of a single degree of independent, individual thought, each average house is practically like its neighbor and is located on its plot of ground in practically the

same wasteful way; and each average doorway has the same features—or lack of them.

Of course there are restrictions imposed upon the purchaser of so-called improved property, for his protection as well as his guidance, and it is right that there should be. But all of this, be it noted, is quite apart from these restrictions and regulations. Beyond the building line and the character and minimum cost of the buildings to be erected, there is usually little that is arbitrarily fixed in either the opulent or humble colony. And this little offers no insurmountable obstacle to doing what is really best in disposing both house and grounds—although the building line comes very near doing so, without doubt. The elimination of this fixed line, however, is not of course possible or even desirable perhaps under our present system of regulated building; but the system itself is wasteful, vulgarly frank and ostentatious, and utterly destructive of garden opportunities as well as of the fine instinct of home reserve and privacy that is such a priceless human asset.

We have not grown old enough as a nation, however, to shrink from personal publicity; we still cherish the infantile instinct to cry “hello!” to the passer-by, to lift up our possessions to his

gaze—which will be flatteringly covetous if these are striking enough—and shake them triumphantly before him with an exultant “see!” So we have the veranda-stage whereon our little dramas are to be played before this audience; and we plan all the settings around about to capture the admiration of the street.

Consequently the suburbs of American cities are said to be the most beautiful in the world—to *drive through*. Could there be a more eloquent qualification of praise than that final clause? I think not, when it is remembered that these are colonies of homes, not public parks. They are not for the man who drives through. They are for the man who stays there, and for his wife and his sons and his daughters. Yet the streets are the most attractive part of them!

There are few at the present time, I grant, who would have the courage to break away from what has come to be a traditional style or plan here, even if convinced of its advantages, both ethical and material; yet I am going to suggest what a colony which adopted the other older and better ways might gain, and the very real beauties which would remain in its streets even though they were deprived of their domestic panoramas.

In the first place, every foot of his ground is available to the man whose house forms a part of his boundary walls and whose boundary *is walled*. If he buys forty by one hundred feet, he has forty by one hundred feet to use—not forty by one hundred less forty by twenty-five, or one quarter of the whole, which restrictions bind him to turn over to the street, to put it as actual unvarnished truth. He has space for flowers, fruits, and vegetables to an unbelievable amount—unbelievable at least to those who have never thought about it or figured it out or tried it—and within his own garden beauty and interest and recreation and diversion, instead of in the street.

It is a reversal that is very complete, for instead of a front porch overlooking the throng and the dust and invaded by both, figuratively in the first instance, actually in the second, this outdoor room will open at the rear—or side, depending upon the proper weather exposure, which must always be the determining factor—and looks over the fruits growing upon the wall, the green things everywhere, flowers in their trim borders, a tennis court, perhaps, or a bowling green, a pool in the sunlight where water lilies bloom and gold fish rest in the shadows, a hammock in the distance under

the trees with table and chairs, and *al fresco* breakfasts on fine mornings—where grocers' carts and delivery wagons cannot adventure, where all the privacy and lounging indolence of indoors is possible, out under the blue in the fragrant sweetness of a true garden.

Yet in the street there is the same cool shade that there has always been, from trees along the curb; the same refreshing strips of emerald turf beneath them; a flicker of light and shadow in the vines growing on garden walls and house façades; gleams of color from blossoms in window boxes; and glimpses beyond into delightful garden retreats—glimpses that are infinitely more alluring than the endless bits of lawn that stretch monotonously back from the sidewalk to the inevitable clotheslines of present day back yards. And finally there is restful unity of purpose taking the place of what is to-day, at best, lack of harmony and uncertainty—an uncertainty that is inevitable when the appearance and general effect of each place from the ground up is so dependent upon the general effect of its neighbors, and of all the others in its block, standing as they do in the open and all together.

I am inclined to think that we have departed so far from the sensible, reasonable arrangement practiced by older peoples—by our own

ancestors here, indeed, in early times, as old villages in many parts of the country still bear witness—through a fundamental misconception of the town, village, or suburban home, its possibilities and its limitations. We have not recognized that it is definitely a type, alone and by itself; as distinct as the city home; *widely different* from the country home. Right here, indeed, is just where the most serious error has slipped in, for all the effort has been to treat the suburban grounds along the same lines which the large estate admits, to build the suburban house according to the same plans from which the house in the midst of acreage rises.

So a kind of landscape gardening has been attempted, in a loose fashion, to which boundary fences and walls and many other rational features have been sacrificed in the vain hope of creating an illusion of the spaciousness and splendor which the town or suburban place cannot, in the very nature of things, possibly enjoy. For it has its very definite limitations, fixed and unalterable, of which it cannot be rid. Not until these are recognized and, being recognized, are turned to account in the distribution and ornamentation of its grounds, will its highest possibilities, both esthetic and practical, be realized.

But in the colony established upon the pre-

vailing system of the present, the builder must of course conform to colony restrictions and requirements; which means that twenty-five feet or thereabouts must be given up in front of the dwelling—more perhaps, if the building units are deeper and wider than fifty by one hundred feet. This size, however, is a fair average, and I have chosen it as the most typical plot for consideration throughout. All that applies to it applies equally to the larger areas, up to and including the quarter-acre unit, but with properties larger than this I have not considered it proper here to deal, for they are in a class apart.

Of course a farm may be, and often is, as truly suburban as any tiny cottage plot, but in its special significance the suburban or village home consists of from two to four selling units or lots, each probably twenty-five by one hundred feet in size. It takes seventeen of such lots to make an acre, approximately, the exact size of the latter being 43,560 square feet—or, reduced to “real estate” measurements, a tract one hundred feet deep by four hundred and thirty-five feet and a fraction over seven inches long. One hundred feet by one hundred, or four lots, is thus not quite a quarter acre.

There are two kinds of houses to choose between for the typical fifty by one hundred foot

plot, which will leave the balance of the land in the most advantageous shape. One is the very narrow, long house extending far back; the other is the wide and shallow house that covers practically the entire breadth of the land. Of these two the latter is preferable in one way, as it leaves a fairly good sized rectangle intact between itself and the rear boundary. But here the exposure must enter into the calculations—for the long side of a dwelling ought always to meet the sun and the prevailing summer breeze. In the street running east and west the broad, shallow house will do this, but on north and south streets the long and narrow form, which leaves the open space at one side, will usually have to be adopted in order to secure the necessary southern exposure.

I assume that southern exposure is universally necessary to secure breeze as well as sun, inasmuch as it is so very generally so. There are instances, of course, where this is not the case, but they are usually owing to purely local conditions, topographical or otherwise, and are too uncommon to be reckoned with here. Suffice to say that where such local difference exists, it is only necessary to know from which direction the prevailing summer winds are to be expected and plan for these as well as for the sun.

The essential thing is never to adopt any plan, however convenient and interesting it may be, that has not been developed with this thought of exposure *for your own particular location* particularly in mind; and the right exposure for both comfort and health insured in its working out. Which makes the ready-made plan about as useful in most instances, however meritorious it may be in itself, as nothing at all. Only for what they may suggest to the prospective builder are such designs worth the effort or money spent on them; however, as they are frequently thus a source of real inspiration, we must allow that they have their value and a place in the world's economy.

The entire design and the final effect of the ground or garden treatment of any place will depend, then, upon fixing the situation of the house to the best advantage. Of course there is no universal rule to govern this initial step, but there are two fairly safe guides which might be called near-rules. Here is the first: If the long and narrow house be chosen—or demanded by conditions—place it at the extreme side limit of the lot and keep its width to twenty-five feet or under. When I say at the extreme side limit of the lot, I mean just that; cut off even the eaves by choosing a design that permits such

treatment, and put its wall exactly on the line. Plan a basement service entrance on that side, with all passages, storage spaces, and presses on each floor likewise along its blind expanse. It need not be a blind wall in the building of it unless the next door dwelling makes this desirable; but think out the plan so carefully that the necessity for closing up whatever windows it may contain, should it arise, will work no real disadvantage to the interior. For even the narrow strip of land which would be sacrificed on the other side if the house were set only a few feet from the line, is precious, meaning as it does an absolute waste of anywhere from one hundred and twenty to one hundred and fifty square feet—according to the length of the house—which should and might just as well be conserved in one with the ground on its sunny, living side.

And here is the second: If the other sort of house is to be built, carry it all the way across the lot, right up to one or both boundaries; and make it as shallow as convenience and expediency will permit, keeping both its side walls blind. There are two reasons for this very radical obscuring of side walls and eliminating of passage space at the sides, beside the reason already mentioned in connection with the long

and narrow type of house. One of them is the very much greater degree of privacy existing when an actual wall of wood or masonry, instead of a transparent wall of fluidic ether, separates two households, albeit the one is only a foot in width while the other may be five or six. The rooms whose windows open upon such a space as this are neither light nor well ventilated, while they labor under the additional disadvantage of acoustic properties that make conversation in them in tones above a whisper decidedly indiscreet, except the topics discussed be of the most general character.

The other reason is the doing away with one of the most unpleasant and hopeless spots around the suburban house—the gloomy, restricted, chilly, and more or less damp space at the sides, where under the most favorable conditions only a little sunlight ever reaches the ground, where nothing will grow, where ice lingers when the grass is green everywhere else, and where no one ever goes for anything—except perhaps the children to play, when raw winds sweep through and it is too cold for them there.

So much for practical considerations within the limits of the lot and concerning the immediate family whose home it is to be. And then

there are the neighbors. Not what they think—be emancipated from that, in connection with home building at least—but how they and their grounds and houses are actually to be affected. Neighborliness is an old-fashioned quality to be sure, almost lost to the city dweller, but it is a very worthy one, nevertheless. Doubtless the folks next door are queer—I think none have ever been heard of who were not, indeed, almost suspiciously queer—but even this constitutional eccentricity of theirs should not and need not inhibit the true measure of neighborly courtesy and consideration.

They are not of necessity hereditary enemies, suspicions to the contrary notwithstanding; and an actual application of the golden rule is possible in all ordinary cases, as well as a most satisfactory standard of measurement. City neighbors, living on either side of their party walls or piled one above the other's head, tier on tier, may be less than nothing to each other, but suburban neighbors are bound to play each a very definite part in the other's life. And well begun is a great deal more than half accomplished in this complex relationship.

So, if the neighbors are there first, plan not to impair their beginnings if it is possible. Avoid an arrangement which will bring kitchen

doors under living-room windows—here the blind side walls again prove their advantage by making such a catastrophe impossible—and take care that trees or shrubs or arbors do not cut off what is obviously a cherished view, even if this embraces nothing more worthy than the distant corner of a busy street. If that sort of thing is what these neighbors like, that is the thing they enjoy looking at; do not deprive them of it if it is possible to do the best by your own place without doing so.

But on the other hand, never let a neighbor's misconceptions and bad taste be an obstacle to doing the very best that it is possible to do with the home that you are building. Put your house where it ought to go, making it the form and size and style that you require; screen what may need screening; fence, wall, or hedge the entire property — invariably — and never plan any part or feature so that it is in any way dependent upon the property adjacent. This is not to say that two places may not be delightfully developed through mutual concessions and by means of a unified plan that embraces both; but even in doing this, they should be kept distinct. For, however amicable the relations between two families may be, there is always the possibility of a change in one or

both households that may change all the circumstances absolutely. Be courteous, be considerate, make as generous concessions as friendship may prompt—but be independent.

Of the division and use of the ground space left after building there are only a few general things to be said here, this being a subject for more special discussion in subsequent chapters. It is well for us to remember, however, that the most delightful small gardens that have ever been made have never been devoted wholly to flowers and flowering shrubs. These are the humble cottage gardens of the old world, which, though ablaze with flowers, furnish their quota of salads and greens, too, and of pungent herbs and fruits. And there is no doubt that greater thrift in gardening practice here would produce gardens of much greater interest and beauty.

We are and always have been a nation of wasters; nowhere is this more apparent than in our handling of these small home plots. If we could reform ourselves in this respect it would be a great accomplishment from the esthetic as well as the practical point of view. For it is not so much a matter of money—although it counts decidedly, in real cash—but a matter of sound judgment; of good habits of order and efficiency and usefulness; of quickening the fac-

ulty of appreciation. Moreover, although we have not needed to husband the natural resources of this fine and fat land wherein we are the fortunate dwellers, to any appreciable degree, the time is not so far distant when we shall be obliged to do so.

Gardening is arduous work, of that there can be no question, nor to it a denial from any honest person of actual experience. But gardening among vegetables and flowers is no more arduous than among flowers alone—and I think that no one who has tried it will deny that it is a deal more gratifying and satisfying. There should be flowers of course, quantities of them; but they ought never to crowd out the eatable plants. Even the tiny garden of the suburban home has room for several of the choicest of these; and, with its house on the north so that sunlight and protection are assured, and the largest area possible is available for cultivation, there is not a single reason for failure to round out a useful as well as a beautiful garden.

Abandoning once and for all then the wrong ideal which sees in the small-town home a country home in miniature, as well as the wrong idea which regards it as impossible of improvement from its barrenness; and taking all the points which have been covered into consideration,

balancing one against the other, it seems to me that we may almost declare it as an axiom that its highest beauty will certainly be achieved only when a sane utilitarian spirit is suffered to guide; when efficiency leads and beauty follows after to adorn. Neither need be sacrificed in the least degree, if their relationship is understood and kept true.

“Many things difficult to design prove easy to performance.”—SAMUEL JOHNSON.

CHAPTER III

DESIGNING A GARDEN

GARDENS as we commonly know them are not exalted to the dignity of being designed, for garden is a term that is usually applied only to that portion of the ground whereon vegetables grow. But as a matter of fact it should not be so limited, for rightly a garden is an inclosed space planted with trees, fruits, flowers, or vegetables, or all four. So really the entire grounds about a dwelling constitute its garden or gardens; so it is as a garden that I am going to ask you to think of them. It is these in their entirety that are to be furnished with a design—that is, that are to be planned and made orderly and beautiful. And they must be considered as a unit in order to accomplish this with the best results.

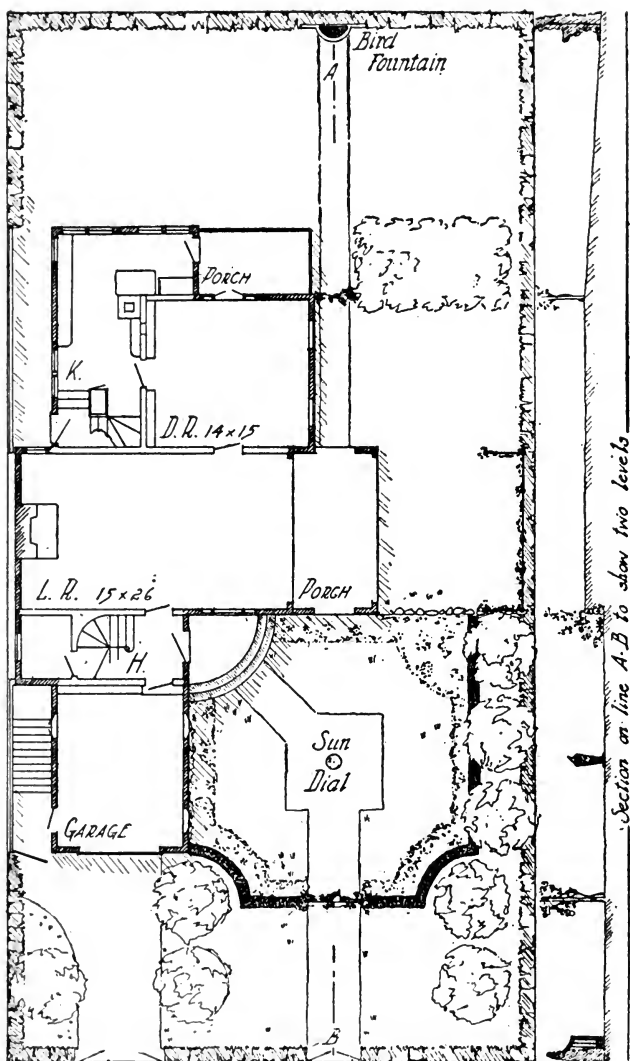
There must be no slipshod treatment any-

where, no ignoring of any portion, and no separation of one part from another. All together the plot of ground must be considered, the front yard, back yard, and sides, if there are sides. Before a bush or tree or flower is planted, a plan which holds all these somewhat separated parts together into a well-balanced and consistent whole should be adopted. This is necessary not only from the æsthetic point of view, but from the practical as well, for only the most careful planning will insure the needed space for the various garden features; only such planning is economical in the true sense of the word. It is the arrangement of these features in accord with the ideals of harmony and beauty—*and economy*—that constitutes garden design.

A vast amount of theory has been promulgated with regard to this art, and hundreds of years of controversy have illuminated or obscured the subject, according to the nature of the controversialists. But all the discussion has left us very little indeed that is suggestive when it comes to dealing with the most modern problem of all in gardening, the problem which is now before us. It really seems that we must solve it independently, just as we are solving the problem of the suburban house. Present conditions must evolve something to meet

their need. That a desire to do something more definite than has been done is manifesting itself proves this evolutionary process to be in action, shows that we are making progress. Having at last learned something about building, so that our houses are improving, we are beginning to be ready to learn something about the finer art of gardening—as man has ever done.

Already I have said that radical departures are necessary in order to arrive at the most that may be done with the small-town home. Until this fact is recognized and acted upon, the endless lawns of these places will remain—fresh and green and much better than some less agreeable treatment might be, to be sure—yet tamely uninteresting. That they *are* uninteresting, when all is said and done, is most certainly demonstrated by the refreshment which even the most phlegmatic experience when, of a sudden, a real garden comes into view in place of the few shrubs and greensward so common. However unsuccessful such a garden may be from the artistic standpoint, it has interest, hence it promotes real enthusiasm. It is to such treatment, therefore, rather than to the conventional scattered planting of a few trees and shrubs, that I am going to direct attention, and with it I am



Section on line A-B to show two levels

I. Scheme for plot fifty by one hundred feet in size, with a narrow house which leaves garden space at one side.

The house plan and garden plan are treated as a unit. The garage is placed next the street, avoiding a long drive and its consequent waste and disfigurement. The hall lies between garage and house proper. The transverse axis of the Living Room furnishes the first feature of the garden—a broad terrace carrying the porch level to the side boundary, and there screened from outside observation by a series of rose-garland columns from which chains are suspended. On these chains the roses are trained. The terrace is retained by a dry, stone wall.

The entrance from the street to the house is on the axis of the porch (A-B), which axis furnishes the further union with the rest of the grounds by a path extending to a Wall Fountain at the rear. This main entrance passes into a small flower garden under a rose arch, which spans the opening in the evergreen hedge—kept low—surrounding this little garden. A sundial is set in the middle; the form of the flower border is governed by the form of the steps approaching the front door of the house. It is to be noted that all this portion is on a lower level than the terrace and porch, and that tall flowers planted before these effectually screen them.

Disposed around the boundaries of the front portion are eight dwarf fruit trees. Behind the terrace there is space for a rose garden if desired, or for strawberries and salad plants. A mass of small fruits behind this space divides it from the section across the back of the plot, all of which may be devoted to a little kitchen garden if desired.

The service entrance to the house is through the basement by means of stairs at the side of the garage, screened by a lattice. The second story of the house extends over the garage and overhangs above these stairs, thus virtually closing them in. A lift leads into the kitchen from the cellar for the delivery of groceries, etc., and stairs lead up to a grade door, giving access to the rear.

going to deal; for the conventional planting is so well known that time spent in advice concerning it would be wasted.

First, let us take the attitude that the ground plot, or plot of ground, right up to its boundaries, is a plane or flat surface whereon some interesting motif is to be executed. Regard it in the same way that the cover of a book or the top of a box or any other sharply defined object would be regarded, if it fell to your lot to ornament such; disregard entirely at first the fact that it is ground, that it is your suburban lot.

It is not necessary to be an artist, nor even a student of design, in order to observe one or two things concerning it which are fundamentals. One of these is the presence of a border in all designs of definite limitation. All-over patterns lack the border, but other designs, if they are good ones, do not. It may be only a broad line or a series of parallel lines, but it is invariably present when the design is made to conform to a certain place and space and form, framing the figures of it, holding them strongly together. So a border must confine the design that is to be executed upon the ground. What this border is to be made of need not be considered just yet; that there is to be an inclosure of one kind or another, a definite and defensive barrier between

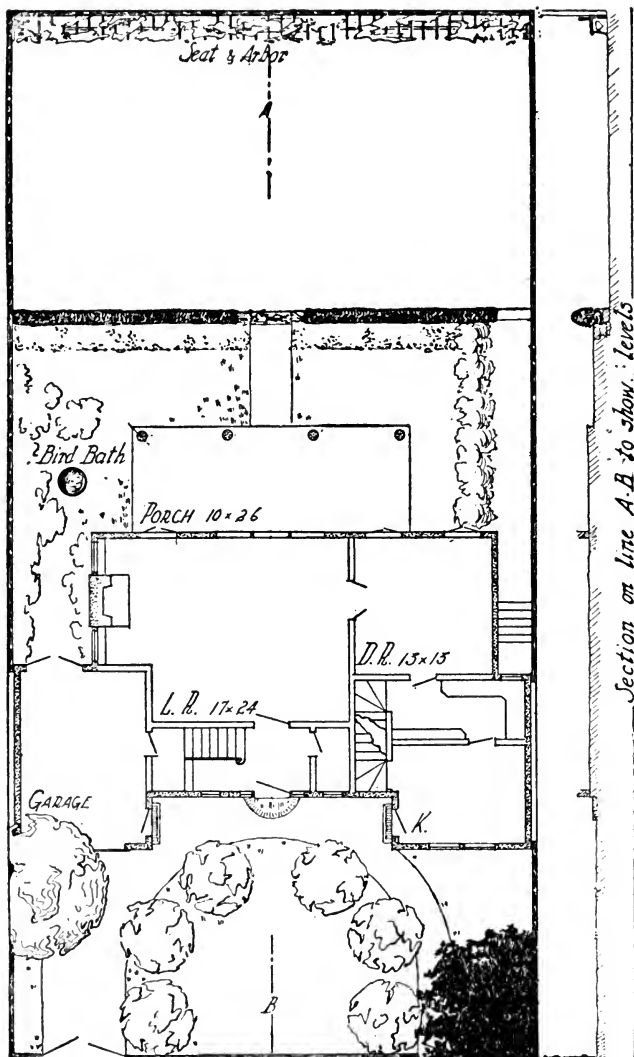


To see in this composition the whole of a little garden in place of the arbored alcove, with grass where now are tiles and flowers growing against its walls, is to look with the imaginative eye which garden making should develop

the garden and the rest of the world, is enough for a beginning.

Right here let me say that I cannot express too earnestly the belief that nothing worth while will ever be done with suburban or any other gardens until we restore the fences and walls so ruthlessly torn down and abandoned around the latter quarter of the last century. Neither will it be possible to accomplish much while our highest inspiration is the work undertaken by real-estate development companies. They were responsible for this destruction of boundary markings in the first place, in their endeavors to make streets "catchy" by reason of their novelty to persons passing through them, every such person being of course a potential sale. And because it is still the streets that the commercial designer wishes to dangle as bait before the indiscriminating, he will fight every effort to restore privacy to private grounds and the thrusting out from them of the public highway.

There is absolutely no incentive to really fine garden work under the conditions which are to him ideal, however, and as long as these are tolerated, the art will languish. Be sure of that. Not until all places, without exception, are inclosed *completely*—and have gates, too, at their entrances, not merely unprotected openings—



Section on line A-B to show levels

II. Scheme for plot fifty by one hundred feet in size, using a house that extends across the land from boundary to boundary, leaving garden space at the rear.

This house is Colonial in style, with garage and kitchen gables on either end, facing the street. It is centered on the land and the one axis serves to unite the entire scheme. A fence surrounds this property, and from the house back this is high enough to be a complete screen. Around the front it is lower, allowing free view of the lawn, circled by the entrance walk, which joins the short drive on its side. Passing through the house onto the broad porch the simple flower border opposite the house, backed by a low evergreen hedge, conceals the sunken kitchen garden which occupies the rest of the space. A long but shallow arbor, open on the inner side, with seats beneath it, encloses the rear.

At the end of the porch, back of the garage, is a bird sanctuary, consisting of a tangle of berried shrubs with some cedars, a bird-feeding station atop a high post, and a bird-bathing basin.

Opposite this feature, at the other end of the porch, and screening the path from the basement to the kitchen garden, is a mass of small fruits, supplementing the six dwarf fruit trees which line the walk at the front. Before the garage is a shade tree.

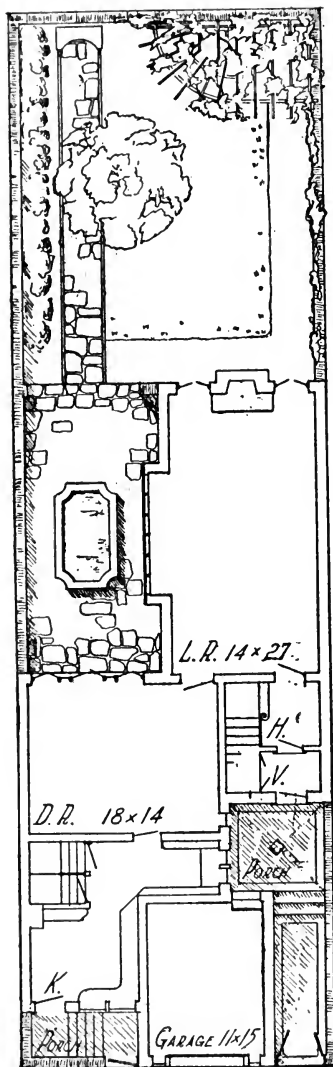
will the instinct really to make garden awaken and really beautiful gardens appear.

With the border allowed for—mark off a space at least one foot wide all around for such allowance, wider if you purpose planting a hedge—the plan of the space inclosed by it is immediately before us. And here the personal equation enters at once, large and influential. People are divided, I find, into what I have secretly called orderly and disorderly in the matter of taste in gardens—secretly because disorderly seems generally to imply reproach, although I do not know that it does in this connection. In fact, the disorderly type commonly regard the orderly ones as offenders and apply the adjective to them almost in the tone of an epithet. So it all depends really on the point of view; but after all, this is not pertinent to the question now and here involved. What matters here is the choice between regularity, symmetry, formality if you will, and irregularity, complexity, asymmetry, disorder in one sense—not actual untidiness but lack of arrangement. Everyone of us will take sides here, one way or the other; this is the big personal equation that will influence all the garden's plan within the simple lines representing its boundary.

With equally careful planning it might seem

at first that neither system would have an advantage over the other, but there is a distinct advantage in practical accomplishment lying always with the symmetrical arrangement. Walks that follow straight lines leave no useless corners and produce no wasted strips or crescents here and there. Every inch of space counts for its very fullest in the garden of mathematical precision. Moreover it is well to bear in mind continually the fact that whatever the natural taste may be, whether it demands a measure of careless irregularity and repudiates positively the symmetry and order which are to another the highest form of beauty, or no, the limitations of the space and of the surroundings impose corresponding limitations on individual garden development.

In the interest of general harmony and seemliness, therefore, order of one sort or another must distinguish even the irregular design. Wilderness treatment is as out of place in town environment as log-cabin architecture; and though there may be the most secluded nooks and idyllic retreats, there must be a certain all-pervading neat precision. In other words, limited grounds may show only to a very limited degree that element which we commonly, though not very exactly, designate as infor-



III. Scheme for a city plot measuring thirty by one hundred feet in size. (This is one and a half city lots.)

Here a fireproof house has its garage and kitchen immediately on the street; the main entrance to the house itself is at the side of the garage and through iron gates that lead to a tiled porch. The living room opens onto the garden at its far end, while the dining room opens also at its rear upon a paved court, in which is set an outdoor aquarium. The house wall continues around the garden, with shrubbery at one side, an arbor at the rear, and vines. One ornamental tree is placed midway along the paved walk leading from the court to a piece of sculpture at the rear.

In connection with city gardens it is to be noted that, in general, an arbor offers more secluded shade than a tree, since beneath an arbor and its mat of vines no eyes from upper windows may penetrate. Moreover, vines may always be found that will grow and shortly cover an arbor, whereas trees will not always grow in the city—and even when they will they are a long time about it.

mality. They must conform to the general spirit of order.

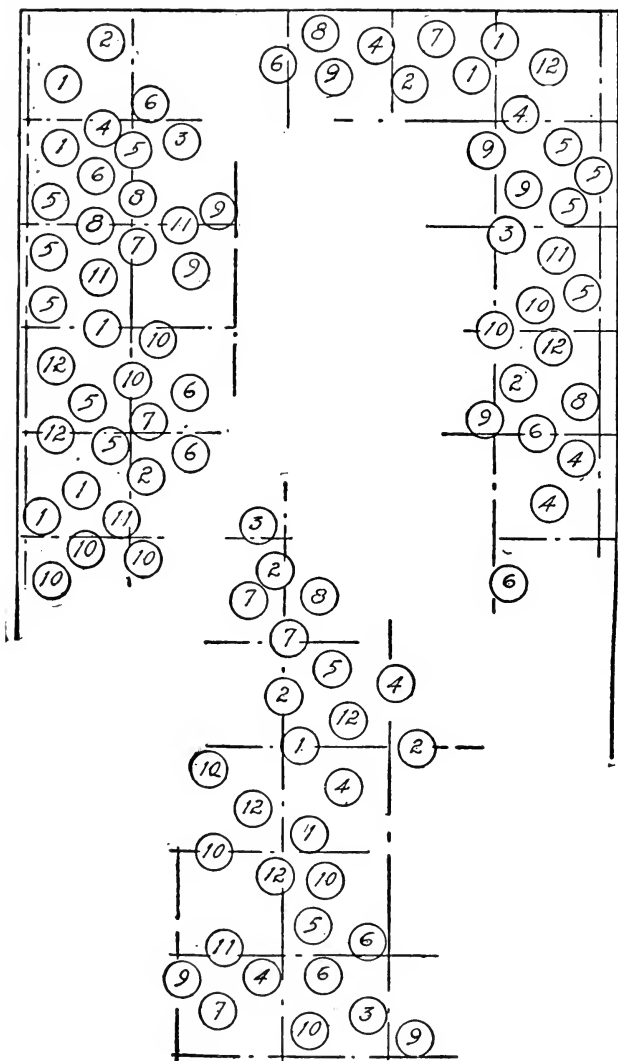
Rightly conceived, the garden is in the nature of an outdoor extension of the house. Every house requires a certain amount of garden treatment to make its presence on the face of the earth anything but an impertinence; for the hard and definite lines created with man's compass and square are antagonistic to every impulse of nature and the natural outdoors, and must be led up to gradually and insinuatingly, if harmony between man's work and nature's is ever to be attained. The charm of the ancient house is largely owing to the loss of this acute and hard precision of line and form occasioned by its settling and yielding to Time—a very subtle and inappreciable loss in the case of well-preserved buildings, yet distinctly effective in the bringing together of artificial and natural. Similarly, the thatch roof, either new or old, is a wonderful harmonizer, partly because of its gracious lines and partly because of its crude natural material, topping and overshadowing the walls that are so artificial.

From the house, therefore, the garden is to work out in its several directions, to the outer limits or boundary of the plot. Hence it is from the house that the start must be made

with the design; in other words, the house itself will furnish the first motif or form in the design. And the principal doors or porches or porch entrances or windows will furnish inceptive points from which the secondary motifs will proceed. Just what form these shall take and just how they shall be unified in spite of their diversity, are things which each designer must decide for himself—and for the particular situation which he is at work upon. Now, therefore, we come to considering the design as applied to the ground, rather than to a flat abstract surface of the given form.

Here we are at once quite beyond the realm of certainty or rule, and only by the aid of diagrams will it be possible for me to generalize even, with any chance of being understood. Four designs, therefore, are shown; but in none of these are more than the main features given, it being my wish only to suggest here principles for guidance which may be applied universally, rather than actually to give detailed designs.

Starting with the house, *in detailed plan*, located upon the ground, the successive steps in the working up of each design are explained. That this natural development of the design by logical steps requires the detailed house plan is obvious; let nothing induce you to



THREE SHRUBBERY GROUPS FOR DIFFERENT PLACES PLANTING KEY

If situated in full sunlight:

1. Forsythia.....*Forsythia Fortunei*
2. Spirea.....*Spiræa Van Houttei*
3. Japanese barberry.....*Berberis Thunbergii*
4. Highbush cranberry.....*Viburnum opulus*
5. Rose of Sharon.....*Hibiscus Syriacus*
6. Hydrangea.....*Hydrangea paniculata grandiflora*
7. Panicked cornel.....*Cornus paniculata*
8. Mock orange (syringa)...*Philadelphus coronarius*
9. Bush honeysuckle.....*Lonicera Morrowi*
10. Deutzia.....*Deutzia Lemoinei*
11. Common barberry.....*Berberis vulgaris*
12. Sheepberry.....*Viburnum Lentago*

If situated in shade:

1. Silver bell.....*Halesia tetraptera*
2. Tree hydrangea.....*Hydrangea arborescens*
3. Japanese barberry.....*Berberis Thunbergii*
4. Red osier.....*Cornus stolonifera*
5. Silky cornel.....*Cornus Amomum*
6. Regel's privet.....*Ligustrum Iboia Regelianum*
7. Panicked cornel.....*Cornus paniculata*
8. Sweet pepper-bush.....*Clethra alnifolia*
9. Maple-leaved viburnum.. *Viburnum acerifolium*
10. Deutzia.....*Deutzia Pride of Rochester*
11. Privet.....*Ligustrum Iboia*
12. Indian cherry.....*Rhamnus Carolina*

omit the careful drawing of this plan, therefore, exact and to true scale, before another line is drawn. It may seem an unnecessary task at first thought to take such pains, especially if the house is built and you are thoroughly familiar with its layout; but house and garden are to be a unit, each complementing the other. Remember this; and remember that the one preëminent means of unification is the axis. Without an exact plan on paper no axes are possible, however familiar you may be with the house plan; hence no means is provided for wedding the outdoors to indoors. Even the single axis, however, which a window or door or portico may furnish, gives immediate solidity and the strength of unity. Keep the need of this in mind and spare no pains to secure it.

The first three of these designs are not formal in the sense of being symmetrical, it will be noticed, though the second approaches symmetry. The reason for this is the lack of symmetry in the house plans from which they spring. Always it must be house first; then, from this, rationally and conveniently and harmoniously, the garden.

“To sing the same tune, as the saying is, is in everything cloying and offensive; but men are generally pleased with variety.”—PLUTARCH.

CHAPTER IV

GRADES, LEVELS AND CONTOURS

WHILE it is true that the usual flat surface of an average plot offers few alternatives in the matter of grading, it is also true that such a place is not as devoid of interest and possibilities as our accustomed and casual view of it presumes it to be. For one thing, the unbroken level is not imperative even on the perfectly flat piece of ground; and for another, ground that is perfectly flat is not as common as we fancy, or as the appearance of most finished suburbs would seem to indicate. It is our conception of it as flat that is responsible for its becoming so with the aid of shovels and barrows and scoops and rakes—those flatirons with which we smooth all the subtle little character wrinkles and coy dimples out of the good brown earth.

This matter of grading—of ironing the face of

the earth out smooth—is an obsession which I am tempted to believe leads to wilder extravagances than any other in which a man may indulge. And it afflicts all sorts of men. Thomas Jefferson spent ten years in leveling a space eight or ten acres in extent on the top of the mountain where he built his home; and the sages of a village whereof I wot not long since graded to a level the entire town! Tons of earth from the broad tops of gentle knolls were laboriously hauled down upon the gracious curves of equally gentle depressions—a feat that dressed many of the roads with rich top soil and left much of the land stripped to its barren clay subsoil and as incapable as stone of supporting vegetation; while the trees everywhere, on both upland and lowland, were most of them killed, and the entire section was robbed of its character and all the claims to beauty and distinction which it once enjoyed.

It seems to me that neither Mr. Jefferson nor the authorities of this town could have stopped to think; yet a hundred years and more have intervened between them, and this age should know better if the other did not. But the endeavor has always been and is to *change* what creation itself has done with the earth. It seems to be impossible for the majority of human be-

ings to look at a hillside with an eye to building a house thereon, without immediately beginning to calculate how the work of leveling will improve God-given conditions. Even those who are most truly lovers of nature, of rocks and woods and wilderness, fall into the same line of thought when it comes to a consideration of domestic grading; and the suburban place adjusted to its site, when that site is the least bit unruly, is the rarest of rarities.

Already the rule which I would establish in handling grades is apparent, I think, without being formulated; but if it is to be a rule it must be expressed. I have always called it following the lead of the land. After all, this is what we are bound to do, in the long run. We may stir up a little dust here, and scratch off a little there, but from the great lead of the land, rising and dipping or stretching off to the horizon as level as the sea, we can never, actually, get away. And it is a waste of energy and time—and beauty—to try.

Approach your individual problem without preconceived ideas to befog its real demands as well as its real possibilities. Then you will be able to conceive a design or scheme for it that will be actually a part of it, and of it alone, uninfluenced by this or that that has appealed to

the fancy somewhere, sometime. If creation has whimsically tilted the ground appropriated to your use at ever so steep an angle, that angle should not only be accepted as a motif, but it should be emphasized. Go farther than toleration—or resignation. Seize upon the extravagance of a site always and make it the feature of the place; develop the plan of both house and grounds not merely to fit the situation but to *require* it. There is a great difference in spirit between these two—as great a difference as always lies between negative and positive. And as great a difference will show in results.

For example, the house and garden occupying what has facetiously been dubbed a vertical plot should be developed up and down—vertically as well as horizontally. Different levels in both should be emphasized, and may even be exaggerated sometimes, by any device that will tend to do this. Topping a height with tall, straight trees, like poplars, is one means to this end, while the use of a spirited architecture of rising lines is another. Entrances to the house at various levels which evolve of themselves in adjusting to such a site contribute greatly to the charm of the whole and create an interest of the quaint and unexpected indoors and out, as well as opportunity for the most delightful

garden schemes. A little more constructive work out of doors is necessary in the making of retaining walls, perhaps, and steps, but these once made are permanent, and the different levels afford real gardening space.

Contrast such a treatment with the unhappy, barren, uninteresting effect which is all that the most carefully smoothed slope achieves, and contrast its upkeep, too, with the difficulties of maintaining such a slope, of keeping it grassed and mowed—indeed of keeping it *there* at all under the wash of heavy rains and the freezing and thawing of winter—and there is not a single point in favor of the latter. Yet so bent upon leveling and smoothing are a great many architects and their patrons too, that not one house in fifty, big or little, do we find following the lead of the land. Which is a pretty large percentage of wrong beginnings and, taken in the aggregate, a startling waste—as well as a discouraging state of affairs to the landscape architect, called in later. For the mistakes in, and of, the house make the best work out of doors impossible, as I think I have already shown in the previous chapter. A garden, you know, grows *out* from the house.

So start right. Find the lead and then follow it—and until it is found do not take a step. For

whatever the topography, there *is* a lead; and though it may hide itself persistently, diligent consideration will reveal it. Hints rise veritably out of the ground, so it is the ground that must be searched to find them. Keep in mind that the object in all you do is to insinuate your presence and handiwork into the presence of the earth spirits and their handiwork so gently and deftly and subtly that harmony will never be disturbed; and realize that this may be done only by accepting their mood as displayed in the chosen bit and adopting it for yours—for the mood of your home. Do the thing, in other words, that is obviously the logical thing, the thing that evolves easily and naturally along the lines established back in the ages when earth was plastic. Low ground or high, flat or sloping, take it as it is; do as it bids you.

Difficulties are at once apprehended at this mention of low ground, I know; but there is really no more reason for shrinking from frank treatment in a hollow than on a hill. Bear in mind, too, that unskilled labor can cart earth from place to place and fill the hollow with the hill, but surely intelligence and imagination ought not to resort to methods so crude. Intelligence and imagination should be able to pre-

serve the hollow and the hill and to find a way to make both habitable and beautiful.

Where there is no complicating drainage to consider, the sunken garden planned especially for winter snugness perhaps, sheltered and sunny, is obviously the solution. But where water settles, something else must be done of course. Yet the very last thing which ought ever to be thought of in handling a natural drainage dip is filling in. Such a situation is never improved by filling, for water below the surface is no real advantage, when it comes to the matter of dry foundations, over water on the surface. What, then, is to be done where water stands?

Make the water difficulty a feature by concentrating on it and putting enough thought into its treatment to earn and reap the reward of a personal triumph and of individuality and beauty in the garden. Find the key to the situation—and use it. Why is the water there? For no reason save that it settles from the surrounding surfaces; in other words, it drains in from higher levels. Very well; make the drainage more complete. Provide one spot at the lowest point so much lower and deeper than all the rest that the water will settle only in it—and make this a swamp or bog garden. Or clear and exca-

vate still more and turn swamp into pool, with a stock of goldfish or commoner kinds as mosquito exterminators.

In this connection let me say that in order to insure against mosquito breeding, every tiny little water pocket among the grasses and the mud at the margin of such a pool or pond must be opened to the fish and kept so; and all overhanging branches of trees or shrubs must be cleared away so there shall be no deep shadows which they will avoid and so miss the larvæ. The presence of mosquitoes around a well stocked pool is a sure indication that one or both of these requirements have not been met, for if the larvæ are where the fish can get them, they will do so. It is only when the fish are shut off from them by grasses or shadows that they fail in the mission assigned them.

The effect of topography upon garden design is of course very great. Yet design, even upon irregular ground, is governed in a general sense by the same considerations which affect it elsewhere, in spite of the great measure of liberty which it must have in order to conform to the ground's undulations. For the axes are quite as important whatever the contours, and the border, framing and holding all together, is just as necessary. A design may be simple too—

even though it does not stay on one plane all the time. But to work out a plan for grounds of irregular surface, the irregularities must be consulted and set down upon the drawing; otherwise the plan cannot fit. It is, therefore, a little less simple to design such a garden, and a topographical map is essential as a basis to work upon, if any great irregularities exist.

This is getting rather too deep into technicalities possibly for the average amateur; yet a contour map is a very simple thing, easy to understand and easy to work upon—and not indeed very difficult to make, although I shall not ask you to go quite as far as that. For an engineer's survey should be made of land that varies enough to affect house and garden design; then all the work can be planned exactly. Such a survey reckons usually from a level previously determined by the general survey of the town or county, but this does not matter. All that matters is the mark of the lowest level, which will be the lowest figure given, whatever the situation may be. This mark may be 0 or anything else; but everything that is not on its level will be above it.

Contours at one foot ascend from this lowest plane a foot at a time; that is, imagining the land under survey to be submitted to an inun-

dation, every rise of one foot in the waters shows a water mark on hills and knolls that is at exactly the same level everywhere, all the way around. The wavy, irregular contour line on a topographical map represents the plan of such a water mark; and each one foot rise narrows the remaining portions of dry land and widens the spread of the (imaginary) waters, until at last only little islands remain here and there, whose topmost heights are something less than a foot above the last rise. Obviously, where a slope is very steep the contour lines fall very close together when seen from above; where it is gradual, they widen out.

Working on such a plan of the ground itself, the plans for the house and for the garden may be adjusted perfectly; terrace levels may be calculated and terrace outlines fixed to take advantage of every gradation and variation. And though there is always of necessity a certain measure of excavating and reëstablishing of disturbed earth coincident with building, and some grading is imperative, these are reduced to the minimum through the exact adjustment and calculation possible. Moreover, the form and size of garden divisions depend so greatly upon varying levels, where these exist, that it is really impossible to plan without them.

Land that is uneven of surface is more often found clothed with scrub trees and undergrowth than the commoner level and conventional plot, probably because the cleared meadows of farm lands which are the first offerings of the country to the suburb, were usually their level portions, I suppose, while the hillsides were left uncultivated. And in this natural growth there is another valuable suggestion for the garden, as well as an actual beginning sometimes. For even the most unpromising specimens already established, if given proper care and attention, have an advantage over trees and shrubs that are introduced.

Preservation of such growth, however, is only accomplished by the preservation of the grades whereon it is fixed, for the surface levels above the roots of trees cannot be appreciably changed without great risk to the trees—a risk varying somewhat according to the varieties represented and the amount of the change in level, to be sure, but always present nevertheless. Six inches of soil added or six inches removed may very easily prove fatal, while less is often the occasion of a severe set-back or general decline from which they recover very slowly and perhaps never completely. This is because roots grow at the depth which insures them the right de-

gree of moisture, of warmth, and of air, and any change in this depth seriously affects all three. The removal of even a small amount of earth allows the sun to bake them as well as to draw away the precious moisture from them. And of course it increases the air supply as well—dangerously.

On the other hand, the addition of earth shuts this off, smothering them; and it upsets, too, the moisture and warmth equilibrium which is so carefully and nicely adjusted. So if trees are to be preserved they must be allowed their places undisturbed. No change of more than two inches either way should be made in the ground around them within the space covered by the full spread of their branches, which is the space occupied by the spread of their roots—and even this is not desirable.

I have spoken almost entirely of grading and grade treatment on irregular ground because ground of this character naturally demands more attention than ground which is level. But there are one or two interesting possibilities on even the level tract or plot that are all too seldom realized. One of these is the terrace as shown in the first design, page 30, another is the terrace in the rear of the house, page 34.

There is always a measure of earth to be dis-

posed of when a cellar is excavated. Commonly this is hauled away from the place that does not require filling to bring it to the customary dead level; and this sometimes, if not usually, is done at some expense. A terrace effectually makes use of this instead—and varies the uninteresting dead level most agreeably into the bargain. Moreover it affords a vantage point from which to look beyond the boundary planting, just as did the ancient mount within the mediæval walled garden. And the terrace approach to the house is of all treatments the most effective, especially if for any reason it is necessary or desirable to set a house high above the ground.

The ramped walk is a pleasant feature altogether too little known and adopted on the small place, yet really possible anywhere. Why this graceful slope does not more often take the place of the steps which we so laboriously build and climb I cannot imagine, unless it be because the idea is generally unknown. Excepting at the main and formal entrance from the street to the house, this ascent is everywhere appropriate; its suggestion of intimacy and ease, however, bars it from the entrance at which strangers approach. It should never be carried out in stone or cement or any artificial medium; but in the

garden, where gravel or grass walks—preferably the latter—are possible, any rise where steps ordinarily lead from one level to the other affords an opportunity for a ramp.

A grade of from thirty to thirty-five or -six per cent. is the best, this being comfortable of ascent and easily established and preserved. That is, there should be an advance horizontally of three feet or thereabout for every foot of rise. And although this takes up more space than steps in order to reach a given height, it is space that can usually be spared without appreciable disadvantage. Sometimes lawn the entire width of a porch may effectively be ramped up to the porch floor level and the porch steps eliminated altogether. Opportunities for charming and interesting effects will suggest themselves, if this idea is given some attention and its possibilities allowed to develop easily, without being overdone.

When grading or terracing is to be done anywhere, go about it in the right way by removing the top soil first to a depth of from six to eight inches—more if this soil is deeper; the color will tell you—over the entire area to be excavated, and also over the area which is to be terraced or ramped or altered in any way. Put this in a convenient place where it will not interfere with

building and grading operations, but will be accessible when wanted. Then do the work of grading everywhere, bringing all levels to within six inches of their proposed finished surface. When all this is done restore the top soil to the *top*, spreading it evenly and a little deeper than the six inches allowed over those areas which have been built up, as these will settle.

I would advise retaining walls of stone or brick invariably instead of sloping grassed terraces, both for their greater permanence and for their superior merit artistically and practically. A garden of the before mentioned vertical character may be broken, by means of such walls, into levels that provide as much room for vegetables and flowers as any flat tract of the same area; and at the same time the walls themselves furnish space for a quantity of fruit—much more of course than the single wall surrounding the garden on a level site affords.

“ A garden circummur’d with brick,
Whose western side is with a vineyard back’d;
And to that vineyard is a planched gate—”
—*Measure for Measure.*

CHAPTER V

BOUNDARY TREATMENTS

THERE are three distinct forms of defense possible—the fence, the wall, and the hedge. And of each of these there are several types; so that something suitable to every type of house as well as to every kind of situation may be found. To choose just any sort of thing that will keep out the intruding elements alien to the perfect garden is therefore not necessary—and is, further, not excusable. For harmony is as important between house and grounds *and* boundary treatment as it is between house and grounds. A place which may be delightful when inclosed with simple palings or a hedge may be altogether overdone if a wall of brick or stone defines its limits and protects its interior. Do not regard time spent in examining into the claims of the various features which may be



Whatever the materials that furnish the boundary wall, simplicity in design is sure to produce results that are dignified, restful and practical

chosen for the boundary, therefore, as time wasted; analyze each from every point of view, and do not settle upon anything without knowing that it is the best thing for the place in question.

Further, let me say that whatever is being considered let it always be regarded as a protective barrier and never be regarded as an ornament, in itself. Ornamental a well-designed and well-built fence or wall, or well-kept hedge, assuredly may be and will be; but it is never for the purpose of ornamenting that it is built—and for an outer boundary especially the quality of unobtrusiveness is the one to court. Within a garden of a certain type, *treillage* and elaborate latticework and fencing are appropriate, but this sort of thing should never be used to separate private ground from the highway or from adjoining lands. Whatever is ultimately discovered to be the proper boundary treatment to harmonize with the house and the grounds in a given environment, therefore, is to be designed finally with a view to keeping it in a low key and never to attracting attention to it or to occasioning remark at its striking character.

It is of course only possible to generalize in somewhat broad terms with regard to the suitability of the various kinds of boundary treat-

ment to different styles of architecture and different environment, since many things enter in to cause exceptions, now and then, to what may seem a positive rule. But as a beginning it is pretty safe to say that the hedge is, of all forms of inclosure, better suited to the average nondescript place than anything else, because it is, in itself, a compromise between the definite elements of architecture and the indefinite qualities of nature.

The deciduous hedge has this about it, moreover, which recommends it; it insinuates itself into a community without shocking the sensibilities of even the most conventional adherent of the real-estate style of landscape, for it starts low and only gradually becomes the full-fledged barrier that it is proposed to maintain. And while it is growing to its fullness of height and breadth and effectiveness, everyone grows accustomed to it and comes to accept it as a matter of course; whereas, if a fence had been boldly erected it would have seemed a piece of impertinence to the entire neighborhood, so established are most neighborhoods in the thought that garden seclusion and privacy is a direct affront to neighborly privilege.

So it is the hedge that shall have first place in our considerations—not, be it understood, be-

cause I accord it first place as a garden boundary, by any means; but because it is so generally useful and so generally possible. It requires, of course, to make it wholly effective as a protection, the reinforcement which a fence alone will give, although if it is properly established at the time of planting and properly cared for thereafter, it is possible to develop it into an impenetrable mass of close-set branches right down to the ground. And of course nothing short of this approaches the true ideal for a hedge.

Perhaps no plant has ever had the vogue for hedge purpose which the California privet enjoys, and no plant has ever more deserved its popularity. It is not because it is cheap, either, that it is popular, though this of course partly accounts for the wide use of it. But its great adaptability to all sorts of places and all but the extremely cold sections of the country, its rapid growth, and the beautiful wall of living green which it presents when rightly attended, play quite as large a part in its popularity as its low price. And even when it is killed out in a winter of unusual severity—as much of it was during the unprecedented winter of 1919–20—it comes again from its roots, if cut back properly, and renews itself within an astonishingly short time.

The plants for a privet hedge should be preferably three-year-olds at least, for these alone will insure plants that are thick and well branched *at the ground*—which is almost the most important thing about a plant that is to go into a hedge. Set them nine inches apart, and from one foot to two feet inside the actual boundary line of the property they are to inclose; and set them deep into the ground. The simplest way to go about the work is to have a trench dug some five or six inches deeper than the roots of the plants; on to the bottom of this spread well-rotted manure, then sprinkle earth enough over it to cover it. Then set the plants along in the trench, putting enough earth over the roots of each as it is held in place, to keep it there, but not filling in the trench until all are set, when it can all be done rapidly.

When the planting is done, cut back the plants to within two inches of the ground—which, by the way, is the hardest thing about the entire proceeding usually, for the novice at any rate. And I will agree that to cut back a perfectly good bush that is perhaps four feet high and strong and well branched, until nothing is left of it but the stumps of its branches standing just above the surface of the earth, requires some determination—and possibly more

faith. It is the only right way to make a right start, however; for any other way will produce a hedge that is bare and weak at the ground and that will, moreover, always remain so. For it is only just below the point of pruning that a plant sends up new growth; consequently if it is pruned high, this new growth will be high up, whereas if it is pruned close to the ground the new growth will begin at the ground—where it must be in order to produce a hedge that is dense and thick from bottom to top.

Deciduous hedges should be sheared annually at least, and the privet usually requires shearing twice during the summer while it is establishing itself, since its growth is rapid and it is important to shape it carefully during its early years. And of its shape let me say very emphatically that it must always be narrower at the top than at the bottom, if it is to maintain its branches down to the ground and conform generally to the ideal set for it. The Gothic arch, slightly flattened at the apex, is the best form possible, though the sides may slope in on a straight line from bottom to top, if preferred.

The principle involved is simple; namely, that the growth must be able to receive light and air equally all the way to the bottom. Only by making the branches above shorter

than those below them, is it possible to insure the latter their proper quota; and of course this results in the in-sloping sides. A secondary advantage of this form is the greater strength of the hedge mass under weight of snow or ice and its consequent resistance; for snow or ice resting upon it is supported by practically all of its branches instead of by only the top branches, as is the case when a uniform width is preserved and the top is flat.

The height to which a hedge of privet may be carried is limited only by the height of the shrub when left to its own devices; as this is fifteen feet it is apparent that high and beautiful living walls are possible through the use of this variety. As a matter of fact, however, I would not advise bringing it to more than ten feet or even eight, unless on a large place and under exceptional circumstances. In England an upright narrow hedge only a foot in width and from five to nine feet in height is sometimes developed, and beautiful things they are; but we have always to remember that our extremes of heat and cold make it difficult to do many things in America that English gardeners have no trouble with. This is not to say, however, that walls of privet of this height and width are not possible here; but as with the more

usual hedge, I would advise tapering them from a width of two feet at least at the bottom to a foot at the top and leaving the top rounded rather than flattened.

In the early days of gardening here, the arborvitæ was much used for garden hedges; and it is as good to-day as it was then. For a hedge of evergreen, indeed, it is hardly excelled, and it endures shearing perfectly. But its shape naturally is such that not a great deal of attention is needed to keep it in the desired form, for it conforms to the lines of the Gothic arch almost without touching the shears to it. When used as a hedge, the plants should be set not quite their width apart, whatever size they may be. This will insure their becoming a solid, dense mass as they grow. Pruning should be directed to keeping them at the height decided upon, and evenly sloping on the sides of the hedge.

Prune evergreen hedges in June, preferably, as they are then at the fullness of their seasonal activity and will not suffer from the operation, and will moreover soon clothe themselves with their new growth, which will then conform to the desired lines. Deciduous pruning or shearing should be done in June and again, if necessary, in August—the latter while the hedge is

being formed. After this the midsummer work will ordinarily be enough.

There are of course other plants available for both deciduous and evergreen hedges, but I prefer not to confuse the issue by dealing with them here. Consideration of the hedge is not complete, however, without reference to the use of honeysuckle or actinidia supported by ribbon wire or by any good strong wire fencing. Ribbon wire is the simplest to use, for it requires only fastening to the posts as it is stretched, while wire fencing requires a fence stretcher and considerable work to erect it properly and permanently. Furthermore, it is doubtful if any wire fencing is actually permanent, since time does make inroads upon it even when it is painted and well cared for. So the ribbon wire, which is easily renewed, is again a better choice unless absolute impenetrability is desired.

On posts set eight or nine feet apart, three rows of this will furnish support for the vines which will, in a very short time, provide a fine and dense hedge—of an almost evergreen character if of the honeysuckle, for it holds its leaves throughout the winter in all but the severest latitudes. Set the plants at every post and two between; and see to it that, as they grow, they are twined on to the wire and carried

up as fast as they have covered the lower wires, to the top one and along this. A little watching and directing will rapidly form the growing mass into almost as even a hedge as one of sheared privet or arborvitæ; and as each summer adds the twining branches of its growth to those already established, such a hedge will thicken and become a veritable wall of green which may be trimmed enough with the shears to prevent its being ragged.

For very high screens or boundary planting on large plots the beech tree offers wonderful possibilities, holding its leaves throughout the winter as it does and adapting itself perfectly to severe shearing and shaping. And as it may be maintained at a width of perhaps only four or five feet when its height is twenty or more, its usefulness as a screen on a place of limited size is apparent; for it takes up actually very little room.

Second only to the hedge in general suitability and usefulness is the wood fence of one kind or another, built in a manner to conform with the style and the character of the house beyond it. There are of course many fashions for this, ranging all the way from the solid deal or plain board fence of the city or large town back-yard to the palings or picket fence of the trim

New England village; but when anything apart from the simplest design is approached, beware! Not that real variation in design may not be considered, but that the unusual is, as I have already warned, not to be selected if, by such selection, attention will be drawn to the fence before anything else is noted.

As a general rule there is a fence suited to practically every house that is really architecturally good, even in the humblest way; but further to generalize, I may say that the picket fence, or palings, seems naturally to take its place before the modest house of discreet and unpretentious Colonial type, while the post-and-rail fence demands a rather more spacious, wide-spreading dwelling of somewhat the same character. One is, in other words, essentially the town or village type, the other more especially the farmstead type; and it is well to try and use them accordingly. But this is not to say that there may not be places in the close confines of a town where the latter will produce a better effect than the former—as for example before a house standing high up on an eminence rising directly from the street. In such a case, however, the eminence itself becomes in part the barrier shutting off the highway; and the fence topping it does not need to be of the

close-set type in order to make the setting apart complete.

Which prompts me to observe that it is after all something of a psychological problem, this whole matter of boundary barriers, as well as a problem of actual protection. For it is necessary to *seem* protected as well as to be protected—but not to establish a sense of fortification in doing this, since after all it is only against peaceful invasion that defense is being established. To do enough without doing more than enough is, therefore, a matter of real concern, and restraint is very necessary in the small garden.

Of high and latticed ornamental fences it may be said that their function as screens is perfectly legitimate and their use is to be encouraged if circumstances demand them; but this is rarely on the street side of a dwelling, since on this side none of the actual garden features that invite to intimate use and companionship will be located. And there is an element of the bizarre in a fence of this character which strikes the beholder more forcibly than we desire. They are dramatic—or even melodramatic—and that is the thing we are avoiding.

If a street exposure must be inclosed with a high fence for one reason or another, a better

selection than lattice topping therefore is a solid structure of the simplest lines, capped with substantial coping and simply paneled, if desired, the whole painted in conformity with the house. In other words, duplicate the effect of a wall, frankly; and do nothing to call special attention to it. Such a fence, with a gateway admitting a vista within, or a doorway through it, if its height is sufficient for this, possesses the qualities of dignity and permanence and serious intent which instinctively are felt to be seemly in the public aspect of a home.

Walls of brick or stone or plaster are of course desirable above all else, providing house and grounds generally are in keeping; but never resort to a wall on any sort of place unless it can be a continuation of one of the house walls and thus come into existence naturally and logically. This presupposes a house of masonry, usually; yet not invariably, inasmuch as a wall of stone or brick or even of plaster may perfectly well continue from a house foundation wall of the same material, and thus preserve unity with the house, though the latter is itself built of wood.

For the city garden nothing can equal the effect obtained by a continuance of the house walls in this way, as we need go no farther than

some of our own old Southern cities to discover. In very crowded cities, indeed, such a wall becomes the larger part of the garden, since only a few kinds of plants will live in the atmosphere, and wall tiles, recessed bits sheltering sculpture, wall fountains and seats must provide the color, interest, and beauty usually furnished by them.

Variation in the height of a wall wherever there is a real reason for it—that is, at a point where the contour of the land or where a turn, or a junction with some different section of the garden, or some other element of change makes it logical—is pleasing usually, and sometimes is almost necessary; especially is this felt when a wall entirely surrounds the grounds. One break alone will suffice, many times; or even the variation that comes of a gateway. But this much at least is needed to avoid monotony and the sense of grim (overdone) defense. To extend a wall some distance from the house at a considerable height and then to decrease this height is one way of achieving the necessary variation.

Of course a study of good examples is just as essential to intelligent and discriminating selection when it is a wall for the garden that is under consideration as when it is the house itself. So without regard to preconceived ideas

or prejudices, go carefully over as many books of good architecture, both landscape and building, as it is possible to lay hands on, before deciding on any features that must be designed and built. No one can know how limited his knowledge is until he seeks thus to broaden it; and certainly not until it has been broadened is it possible to exercise taste and to select with full appreciation of all the finer points involved.

A list of the best hedge plants for different sections of the country is appended. Of fence and wall materials I will say only that there are two things to avoid. The first is the so-called ornamental wire fence, the second is the concrete block wall—unless it is plastered and the blocks obliterated completely. As a foundation such blocks may serve but never as the final wall surface. And as to the wire fencing, unless it is used as the support of such a vine hedge as I have earlier mentioned, it fails altogether to give any sense of inclosure, since it allows all the world to look in, if not to enter. And it cannot, by the wildest stretch of the imagination, be regarded as beautiful in and by itself; apart from pure utility, therefore, there can be no reason for using it. And there can be no reason whatsoever for using rails of gaspipe or chains swung through iron posts, since these

are neither good to look at nor good for anything as an inclosure!

HEDGE MATERIAL

The Northern States:

- Common privet *Ligustrum vulgare*
 Amoor privet *Ligustrum amurense*
 Russian olive *Eleagnus argentea*
 Arborvitæ *Thuja occidentalis*

The Middle States:

- California privet *Ligustrum ovalifolium*
 Box-leaved barberry . . . *Berberis buxifolia*
 Japanese yew *Taxus cuspidata*
 Arborvitæ *Thuja occidentalis*

The Southern States:

- Evergreen privet *Ligustrum lucidum*
 Tree box *Buxus sempervirens*
 English holly *Ilex aquifolium*
 Abelia *Abelia grandiflora*

VINES AS SUBSTITUTES

- Hall's honeysuckle *Lonicera Japonica*, *Halliana*
 Actinidia *Actinidia arguta*

“No line or compass traced its plan;
With frequent bends to left or right
In aimless, wayward curves it ran
But always kept the door in sight.”
—*The Crooked Footpath.*—HOLMES.

CHAPTER VI

WALKS, PATHS AND GARDEN ENTRANCES

THE value of first impressions is too well established to need expounding, so if I merely call attention to the fact that here we have the feature responsible for the first impressions of a garden, the importance of walks and entrances will not call for further emphasis. Responsible in many ways too are these walks, paths, and entrances; through the material of which they are constructed they make one sort of impression, through their form another, and by reason of what architects call their scale still another.

Material has been mentioned first because it is, in one way, the most obvious thing, more glaring when badly chosen, contributing in a larger degree to a pleasant effect when well

chosen. But the obviousness of material should by no means detract from a realization of the importance of a walk's form or line of direction and its scale—although I personally feel that a walk or path or even an entrance gateway may be more comfortably tolerated when its design and scale are altogether failures but its material suitable and harmonious, than when a very excellent design or plan is executed in the wrong substance and thus thrown distressingly out of scale.

Material and scale—otherwise proportion— affect each other so intimately that they cannot, as a matter of fact, be considered as things apart; indeed, scale in one sense is altogether dependent on material. For example, a granolithic walk leading to the door of a shingled cottage is out of scale even though its width be kept down to the minimum, whereas a most generous walk of gravel or even of bricks, loosely laid, would not be, owing of course to the greater harmony of material.

Sidewalks of cement along the highway are unquestionably superior to any others, but within the garden—which means within the boundaries of the plot, remember—they are in nearly all cases quite hopeless. Indeed I cannot recall a single exception. There is something so grimly

uncompromising about cement, so public-seeming—and so ugly when brought into close relation with grass and flowers and the garden generally—that it puts a blight upon beauty, however bravely one may seek to neutralize it. Only by toning it down with a gravel space from eight to twelve inches wide on either side is it possible to qualify its glaring, garish, utilitarian unpleasantness sufficiently to make it anything but an offense anywhere within private grounds. And even with this modification it should never be used except for a main entrance, which is always conceded to be semipublic in its character.

The material *par excellence* for interior walks is brick, laid on a bed of sand, this on a bed of cinders. The old-time natural flagstones are next in choice to the bricks, while gravel, properly laid, always makes a walk little inferior to any. This latter must be carefully railed in, however, as old garden beds were railed, to prevent its scattering into the turf along its margins; or else the turf must stand well above it. The latter is a more pleasing measure to insure the confinement of the gravel, perhaps, and quite as effective if the walk itself is well crowned and good drainage at either side is provided.

Across and through the garden, especially if

it be small, there is nothing so pleasing to the eye and so generally a finish and ornament to the design as walks of close-cut turf. That they are wet after rain there is no denying; but so too are walks of other kinds, and most other things as well. The morning dew leaves them reluctantly, some object, which must be granted. But to my mind neither of these complaints—nor both of them together—voices a sufficient reason for not using them. However, where they seem to, stepping stones of equal size and regular form may be sunk into the turf regularly and the effect practically unimpaired. Indeed the stones themselves are charming, bedded in the green, and may prove a real acquisition. They should be regular where definite and regular lines prevail, only gardens of marked informality admitting the flat stones of all sorts of shapes and sizes.

The arrangement and the form of walks and paths are of course of the greatest consequence in the garden design, from every point of view. Naturally prominent because of what they are, and bound to mark divisions, they should always follow leading lines; but note, please, that this does *not* mean that leading lines should invariably be followed by a walk or path. Indeed it is better to err on the side of restraint in the

number of walks rather than to introduce too many. But this is one of those nice little matters that will almost settle itself, if allowed to do so without forcing.

For a walk or a path would never exist if there were not, earlier than it, two objects from one of which it was desired to pass to the other. "Where does this lead?" is the instant query whenever and wherever a path meets the rambler; which means really what does it lead to, what lies at the end? Or in other words, why is this path? Here if you please, is the whole thing in a nutshell; and we realize at once that there must never be a path or walk in the garden that has no reason—no answer to that why and to that what. It may or it may not go straight to its objective point—its course will be determined by circumstances—but it *must have* the objective; and it will work always toward it.

This brings us to a phase of walk layout that has always been to me one of the most interesting—a phase which I do not find often recognized, even by those who have studied the matter. I can give it no better name than the instinctive direction—and this will need explaining I think. It is just what the name signifies; given, for example, an object in one place to be approached from a point at any distance

from it, every creature making the trip will choose, without stopping to think, a certain course—and all will choose practically the same course. Naturally we should expect this to be the most direct, all creatures being constituted similarly in that they are somewhat averse to unnecessary effort; hence a perfectly straight line between the two places. Actually, however, it almost never happens that a path follows a perfectly straight line—for which there must be a reason.

Of course there is; and equally of course—when one stops to think—it is a reason that has its basis in that natural indolence just noted, common to man and beast. For the straight line is not usually the easiest way; and it is the easiest way that is followed, even though this must deviate from being the shortest for nothing more consequential than an ant hill or a rank tuft of grasses. The longer distance is invariably less objectionable than the effort to surmount even so small an obstacle; feet instinctively seek the level.

This element must be permitted free rein in planning walks, even in formal garden design, if they are to provide really satisfying strolls—and this is of course the ultimate purpose for which such walks should always be designed.

Not that they may take their own course unguided, wherever they may list, by any means, but for their guidance the instinctive direction should be kept in mind, and the conditions which determine it should be provided, where they will guide along the line predetermined by the designer. Generally speaking, walks may be put wherever they are desired; then, wherever this may be and whatever their direction, they and their environment must be so contrived as to make that direction *seem* instinctive.

Planting is usually enough to provide all the guide to direction which even the most tortuous path may need; and of course large garden beds, devoted to vegetables and flowers, themselves offer obstacles around which clean turns must be made in the regularly laid out garden.

Walks that are purely utilitarian need not be so painstakingly worked out, for the utilitarian walk provides its own reason and direction, and that is all there is to it. Well proportioned and of suitable material they certainly should be, though; and planted and ornamented they as certainly may be. But on all small grounds their direction should never be interfered with, for such interference wastes precious space.

Take for instance the service ways in the four plans given; they do not use up an inch

unnecessarily, but go direct to the object at which they are aimed. Moreover, they do not give access to the grounds generally, any more than the street does; and the scheme makes them almost unseen — certainly unrealized — from either the house or the garden.

Where the space between the house and street is kept in lawn, it is an advantage usually to carry the front entrance walk also in at the side—for lawn space should be undivided wherever possible. But where this cannot very well be done, where it will sacrifice convenience and directness and the point of instinctive entrance from the street, this walk may be made a part of the general design, as in Plate I, page 30: thus its position is vindicated.

This point of entrance from the street, by the way, is another of those subtle things which instinct must govern—actual instinct in this case and not artificially directed instinct, as in the case of the walk. For no trick will serve to fix this point; it fixes itself, definitely and obstinately. The direction from which a place is approached has more to do with it perhaps than anything else, but the position of the house entrance complements this; so really it takes the two in combination to work the matter out. Again it is the impulse to save steps—the lazy

human nature in us—that is at the bottom of the thing. Here we must let this impulse do its work without interference; and there is no way of doing this except to experiment, on the ground.

Given the house location, try approaching its entrance—its porch steps, if it is reached by porch steps—from the sidewalk, from both directions. Try it a great many times, until the turn is instinctive, and not thought about; get others to try without their knowing it, and note the point where the majority leave the sidewalk. There may be two such points; in all likelihood there will be, if the two directions of approach are used—in which event a spot midway between them will probably be the right place for the gate and the start of the entrance walk. Yet this may not be it after all, possibly, for the point indicated by those coming from the direction whence approach will most commonly be made, as from trolley or station, may be more true to the situation. Or if not this exact spot, one nearer to it than to the other, rather than midway between.

If for example the customary approach to the place in Plate I, page 30, is from the left, then no excuse that could possibly be invented would serve to justify an entrance walk where that plan shows it. Nearer to the left boundary than

to the right it would have to be, unless it solved the difficulty as in Plate II, page 34.

Here, then, is an influence from outside the garden or grounds that must always be reckoned with in planning at least the main entrance walk. For of course its curves, if it have them, and its general direction will be determined by its point of departure from the sidewalk. The formula of the general rule, so far as a general rule may be formulated, therefore is: *never pass the house entrance* to reach the entrance to the grounds. Supplement this by a rule to go as directly as possible from gate to front door, especially on small grounds.

Garden entrances themselves, or gates, have even greater possibilities as regards first impressions than walks. Indeed they may very nearly make or mar a place, as far as its street aspect is concerned, for they have a capacity for expressing very accurately the qualities which lie beyond them; curiously enough, they seldom err. I have never found an inhospitable gateway guarding a generous, warm-blooded man's doorway; neither have I ever failed to find the sort of person I have learned to look for beyond the arrogant, the mean, the splurging, or the silly entrance. So let us look well to our home-portals; they are all-revealing.

But first of all let us make sure that we have them. No yawning intermissions in fence or hedge, with nothing to close them, will do; neither will fine gateposts and gate, with no wall or hedge through which they admit. Either demands the other; and the garden demands both. Each must be in scale with the other, too—and with the house and the place generally as well, conforming to its delicate balance quite as nicely as the walks.

The adjustment of scale in building material, whatever is being constructed, is so largely a matter of feeling, however—of an extra sense—that I hesitate to offer advice concerning it. If one does not know, through this sixth sense, that an iron fence does not belong around a plot occupied by a deep-eaved, shingled cottage; that wire fencing is out of scale with buildings of masonry; or that a hedge is a weak retainer for large grounds and stone buildings, while a dressed-stone wall overshadows a small place and takes interest from wooden buildings, there is little to be gained by telling him. For in some other direction he will turn aside and do the wrong thing, it being impossible to foresee all the unfortunate combinations which may arise—or to foresee instances when the combination becomes intolerable that would, under

other circumstances, be permissible. Apply the test of common sense and reason, however, and rely upon its guidance, if the sense of proportion is lacking. It will keep you within fair limits either way.

Similarly common sense will prevent the building of an airy lattice arch between stone posts, or the erection of clumsy monstrosities of birch or beech saplings, laboriously put together but never solid, anywhere but in the wilderness; even there they are not practical. Arched gateways, rightly conceived and executed, are charming, without a doubt, but the entire place must be considered and its character must determine whether such an entrance will add to or detract from the *ensemble*. With the simple cottage type of dwelling, a vine or rose covered arch entrance is a delightful and appropriate feature, but with a formal house such a gateway is too ingenuous and childish to be appropriate.

The stiffer arch of living green, either privet or hemlock, rising from an inclosing hedge of the same, is better suited to this type, with a trim paneled gate swinging from simple posts beneath it. But for the place that is in no sense quaint there is probably greater dignity and appropriateness in the uncovered gateway than in any sort of arched opening. It is the

small and intimate garden that needs this more distinctive setting apart, especially.

It is with walks and gateways as with so many other phases of constructive garden work, of making and adorning; the one great obstacle to our accomplishing the best results always is the tendency to minimize the value of each seeming small feature. Once rid of the idea that anything at all does not matter, the road to progress becomes an open highway along which we are bound to move, if we resolutely refuse to be beguiled from it this way or that by the trifling, the unreasonable, and the bizarre. These are the pitfalls of the unwary and undiscerning.

“Tyme passeth and speaketh not,
Deth cometh and warneth not;
Amende today and slack not,
Tomorrow thyself cannot.”

—*Old Sundial Motto.*

CHAPTER VII

GARDEN ACCESSORIES AND ORNAMENTS

WE have seen that the walks in and around a garden must have an objective point, must lead to something; and obviously that something must be a distinctive feature, striking a sharp note in the design and focusing the attention positively. This it is not possible for vegetation alone to do; no specimen of tree, shrub, or flower, however superior it may be as a specimen, is distinct enough from all the rest, in just the right way, to provide the needed positive element. Hence garden accessories in all their variations—the casinos, gazebos, arbors, statues, fountains, columns, or whatever they may be, of use or ornament.

In this briefly outlined purpose of these garden attributes lies the guide to their positions. It is at once plain that no reason exists for put-

ting an urn, a statue, or anything else in the midst of open lawn. No argument in the world can justify such a position for any kind of object, any more than it can justify putting a similar object in the midst of a drawing-room floor. Things of this nature are to adorn, not to monopolize. True, a sculpture of merit deserves a setting wherein all its beauties may be fittingly enjoyed; but such a work demands its own gallery or alcove, whether it be outdoors or in, and only when an area sufficient to provide this is available should an image or group of such importance be used. For then the object itself, not the garden, is the feature; the latter, or that portion of it immediately about a great work of art, is secondary—an effect obviously to be avoided, where space is limited.

Let it not be understood that I am arguing against merit, however, in garden statuary or ornament, for of merit there can never be too much anywhere—certainly not in the garden. It is only the too ambitious conception that should be barred from the garden which it will overtop and render insignificant. Neither in actual size nor in the idea expressed may ornament ever assume greater proportions than the thing it ornaments. Be sure that it has done this, however, whenever it conveys the stronger

impression. If any garden accessory sends you away with the thought "So-and-so has a fine statue—or pool or garden house—in his garden," instead of, "So-and-so's garden is attractive with that statue—or pool or garden house—where it is," be sure that the object in question is either ill chosen or ill placed.

But further than now and then an arbor or summer house it seems difficult for us to progress, in all except the great gardens designed and executed professionally—and wearing an air too often of professionalism. And of course an arbor or a summer house is something of an achievement, in limited space; so more often than not we do without even these. Perhaps it is just as well that we do until we have learned to use them, for certainly they are senseless creations unless they are used. So, for that matter, is a garden, too; the remedy lies not in foregoing to make a garden, however, but in learning to *use* it.

The great American front-porch habit is largely responsible for our neglect of the real outdoors, I believe, but a certain spirit of snatching at our idling rather than taking it deliberately may be at the bottom of this. And then, of course, our outdoor retreats have never been made with the intention of actually using them,

hence they do not invite to occupancy—to breakfast on pleasant mornings and tea on summery afternoons, to steamer chair naps or a hot-day forty winks on a cool swinging rush couch. Magazines and books do not find their way to the uncomfortable-looking table tops—and in short there is no reason for idling or resting because there is nothing really to idle with or actually to rest on. All these things are on the front porch—or indoors, out of wind and weather. And because there is no such rendezvous in the garden or at the end of the garden walk, the garden itself lies alone in sunlight and in moonlight, under the dew and under the pale mists and the sweet, cool rain—and not one thousandth part of what a garden really is ever comes home to one of us.

Casinos and summer houses let us have, therefore, by all means; but of the pergola, beware! For pergolas, as they are so often seen and made, are just another instance of our tendency indiscriminately to seize upon and use—and abuse—a novelty. The pergola in itself is not objectionable, but ignorant use has made it so, and worse—made it ridiculous. Which is always an unfortunate state for even the most admirable thing to reach.

Properly speaking the architectural pergola or



Studiously avoiding the conventional this garden appropriately entertains the unconventional thatched shelter that would not be in harmony with less casual surroundings

vine arbor is a transition from the house, out into the pergola or vine arbor that is not architectural, or out into less architectural regions generally. Pergola, be it noted, means nothing more nor less than "vine arbor"; it is our own false conception of the term that applies it only to the timber and heavy column structure which has found its detached way into gardens and succeeded generally in getting where it does not belong. Away out of doors and apart from dwellings there should be no architectural pergolas; here genuinely roofed structures are in order, or else the simplest arbors. Only attached to the dwelling, not merely against it but leading from it, may architectural pergolas be properly introduced.

Many gardens or garden sites which are too small to admit a garden house or casino sufficiently apart from the dwelling to be worth while may yet afford space for this proper use of the pergola. Where this is too ambitious for the type of house and the grounds generally, however, a seat under a tree is always possible—or under a bower of vines—with an outdoor table to keep it company. This much at least should never be omitted from any garden—and may be repeated as often, within the bounds of reason, as space admits or fancy dictates, to

provide the greatest amount of encouragement possible to the cultivation of the out-of-doors habit—and the greatest amount of help in breaking up the front-porch habit. Seats in the form of a semicircle are especially agreeable for groups, or if these are beyond the possibilities, in the form of a square open at the side. Either is good, for either brings the occupants somewhat face to face; thus they are conducive to use because they are conducive to conversation.

Comfort and use should be consulted primarily in the construction of both arbors and seats. None of the narrow, rail-bottom, rail-back, unpleasant affairs so generally found in the latter should ever be given any position whatsoever. Firm balance, a smooth seat, and an easy, smooth reclining surface for a back are essential—and all three are perfectly simple to attain without sacrificing the picturesque in the least.

With the loitering places and the living spots of the outdoors provided, lesser accessories make their claim. Named in the order of their interest I consider them to be: first, the bird bath, either a pool or elevated basin or a very simple fountain, if circumstances permit its being kept in play; second, the sundial; third, the statue or

Herm; fourth, the column or, under conditions where it may be suitable, the stone lantern of Japanese extraction, or some similar object. Arches I have purposely omitted for reasons which will develop later; and bird houses find their positions in trees or atop of posts incidentally and not as special objects of consideration.

If I could have nothing else in my own garden, I most certainly should have the bathing and drinking place for birds. And the tiniest garden imaginable need not be without it—this of course assuming that there are no cats to turn its delightful comedy into tragedy. Puss is an adorable creature; still she is a feline, and we have no right to lure songbirds into her zone. Where there is a doubt concerning this very important point, therefore, the bath must be elevated and guarded by a wire or sheet-metal shield extending from beneath it, out around it at least two feet on every side, and inclined slightly up. This must of course have no outer supports up which a cat might climb, but should either be stiff enough to support itself or else mounted on a frame purposely made for it. And the bath should be placed in the open, with no possible vantage point near enough for a jump to be made clear of this shield, or from above.

Where cats abound, the basin on the wall

needs protection from above as well as from below, but such protection is easily given by a canopy similar to the underneath shield. Both may be dressed with vines if the ground is kept open below and no communication between it and the basin established. Unless these conditions can all be complied with, however, eliminate this feature altogether. It will be a veritable death trap until the birds learn their peril and abandon it—and then its reason for being at all is of course gone.

Many kinds of receptacles are offered or may be secured for the basin itself; and ingenuity and imagination will undoubtedly suggest others that no one has ever heard of. Anything from a soup plate to a marble font will serve—both of these have, I believe, although neither would be my choice. A shallow water space rather than a deep one should be provided; and one portion should be shallower than the rest, for the tiny fellows and the young birds. Stones that are flat and may be laid at an incline to form a gradual descent, duplicate the conditions of a brookside and please the birds; for often they come for a drink and a wade when they cannot stop for a dip.

A wooden chopping bowl, painted stony gray inside and out, and sprinkled with sand while

still wet, was the inexpensive yet very effective provision made in one garden that I have known of. Such a water holder, mounted on a rough pile of stones and buried to its brim in vines, is as picturesque as a very much more elaborate pool, and is of course lighter and easier to handle than one of stone or cement. It may be affixed very easily to a single post, if an elevated position is preferable for it. It is a bath only for the most informal type of garden, however, a cottage garden in the true meaning of the word. Elsewhere something more distinctive may be needed. A simple cement basin comes nearer to the requirements of the average suburban grounds, without being in the least pretentious. One may be made by pouring the cement into a mold made of burlap, doubled and tacked into the top of a barrel. The dip of the cloth takes on a very graceful form, and its folds imprint melon-like ridges on the outside of the basin that vary its surface pleasantly.

Before the cement hardens the inside should be worked out and hollowed and smoothed by hand; and when the cement has finally set—after an interval of about eight hours—the barrel should be turned on its side and the basin tipped out carefully, bottom side up. Then it must be thoroughly wet down with a sprinkling

pot, to prevent the surface from drying faster than the inner part, thus overcoming the tendency to crack. Finally it must be mounted on a big stone bed, with small stones laid around as needed to keep it erect and solid.

All basins of this simple nature, and even more elaborate marble or terra-cotta ones, are very easily and expeditiously filled by hand, either with a hose or water carried to them in a pail. Daily replenishing is usually sufficient, though during dry weather a second supply is sometimes necessary. It is possible to brush the moss and slime from the stones and the inside of the basin with a whisk broom often, though this is not necessary. Mosquitoes need not be apprehended, for the constant agitation of the water would prevent their breeding if the constant replenishing did not—but the latter of course does. Only stagnant water is the *Anopheles* nursery.

Next to the bird bath, with its animation and living interest, is the sundial—still, silent, mysterious, in its eternal union with Time, bringing its eloquent message in from eternal space. Indeed, when I stop to dwell on its awesome beauty and majesty, I almost feel that the dial should take precedence over all other garden features. Yet just because of this maj-

esty and a certain veneration which it commands, I hesitate to put it in first place—in other people's gardens. It should only go where it is wanted—and where it will not oppress; yet it can ill be spared anywhere. Hence, if a position is available in open and unobstructed sunlight I always hope that the gardener will be moved to set up in it this most ancient of timepieces.

Bronze dials are of all the most permanent naturally; but a dial of cement well made is practically everlasting—and not beyond the possibilities of amateur construction, if one cares to take the trouble. The pedestal is important and, from the æsthetic standpoint, should be given as much consideration as the dial itself, or more. For it of course looms up in the garden vistas prominently. Solidity is essential to it, and only a deep foundation will insure this, as freezing and thawing affect the ground to three feet or more below its surface.

Of outdoor statuary and images there are a vast number too dreadful to contemplate! Chief among these are the cast-iron dogs and hunters and swan and deer, and all the multitude of monstrosities of this character that were scattered extravagantly a generation or so ago,

guarding front doors and gracing (!) the midst of lawns. None is so benighted as to acquire these things now, assuredly; but altogether too many which have lasted over remain to afflict long-suffering humanity. Their complete demolition is the only solution of the aching problems which they create, for they came into popular favor in the black-walnut-and-hair-cloth era, along with the Italian villa, a period growing more famous—or infamous—for its execrable taste, as we come more and more fully to realize this.

Most garden makers, however, are spared these iron zoological specimens, happily; so it is a question of selection only and not of destruction first, when garden ornaments of a plastic nature are to be considered. Personal taste will naturally influence here, of course; but if it can be restrained from more than influencing, if it can be held back and not allowed actually to guide or finally to determine, the results will usually be happier. This is not because individual taste in matters of art may not be of the very highest order, but because taste of even a high order may fail to take into consideration all the difference in circumstances and conditions which a garden environment involves.

First of all, for instance, it must be kept in mind that the garden statue will be fixed in its position through all the weather vagaries of the four seasons and during the garden barrenness of half the year. Any figure that approaches a representation of the altogether human, therefore, if clothed or partially clothed, will not be pleasant to contemplate throughout the year, for the very good though perhaps childish reason that it will seem very cold and wet and suggest discomfort too keenly, in storm. Imagination makes us childish very often; and even representations of the gods of the ancients are not beyond thus impressing our human and comfort-loving side—if they wear drapery or clothing. Nudes, however, do not have this effect; and of course satyrs and nympha and the great god Pan come under this general exception.

And then abstract conceptions rather than incident should be chosen; and no better nor more appropriate subjects can be found than mythology offers. Best of all to my mind, for general use, are Hermæ—those graceful swelling pillars surmounted by heads of varying character, all representing the god Hermes originally, but now frequently the likeness of satyr or faun or nymph or just a fanciful head—that present lines so pleasing when thrown into clear relief

against a wall or background of live green. The appropriate symbolism, too, of a Herm in the garden, especially at the intersection of walks at a turn, makes it an interesting as well as a picturesque attribute.

The situations where a shaft or column, surmounted by a classic capital perhaps or some device of interest and beauty, may be placed to advantage are very much less common than those which will admit the Herm, for such a feature is not suitable where a generally informal or careless scheme has been adopted. The straight, clear lines of a column are distinctly architectural and necessarily convey an impression of formality and dignity which must react against the simple cottage type of garden to the latter's disadvantage, and which must also subject the architecture of the house to critical and very possible crushing comparison. The column is indeed a very finished and elegant object and must have finished surroundings. Ordinarily I should advise against using it in a small garden, although it is not a question of size at all. The simplest garden design will admit it, and the smallest space, if it is all decidedly formal and accompanied by a house of refined motif and real architectural merit.

Reverting finally to the arch—which has been

left to the last because, although it is in its purpose an ornament, it is at the same time a structural feature—there is just one positive thing to be said with regard to its position. An arch should always be at a point of transition from one part or phase of the garden to another—and never anywhere else. In other words, regard it as a door, and imagine that it leads through a wall; then you will have a true idea of the difference which should be apparent, between the parts which it connects.

This gives it a *raison d'être*, and it at once acquires the character and importance which should distinguish it, however simple and crude the materials of which it is constructed. Let it mark an end and a beginning always; never put it midway of a path or in the garden's center. Even though it leads through no wall which obscures that which lies beyond, this definite dividing function which is peculiarly its own, this ceremonial leaving and entering which it expresses, must never be taken away from it. Subject to this one limitation and necessity, it may be used with excellent effect at almost any portion of the grounds or garden.

“God the first garden made, and the first city Cain.”
—COWLEY.

CHAPTER VIII

THE PLACE THAT IS STARTED

THERE are of course a vast number of gardens waiting to be made that cannot be taken in hand from the bare ground up—and here we confront special conditions and special problems quite unlike those which are a part of garden making where it has a more ideal start. They are enough like each other, however, to make a general survey of them possible; and general suggestions concerning them may be more helpful perhaps than an attempt at detailed directions for their treatment might be. The one thing is to approach the problem expectantly and confidently.

The process of building a place up is of course the same, whatever the conditions, and successive steps follow each other whether the start

is made in the midst of a half-completed task or at the beginning of the work. So the first thing to be done with the place already partially established is to determine just where a start may be made—in other words, just which steps have been irrevocably taken, and how many may be retraced, if it seems wise to retrace, in order to reach the one farthest back from which to inaugurate the work. Assuredly the plan and the position of the house are fixed, beyond all possibility of change, which eliminates the first step of all. The dwelling's exposure is thus settled and the convenient disposition of the ground about it, according to the location of the doors and windows, its service, and its social portion has probably been made, or accepted as it has made itself.

The garden design, however, which is hardly a design at all, is not unalterable; neither are the grades; nor as a matter of fact are any of the other attributes or features which follow in orderly sequence, from the initial step of planning and choosing the position of the house. Walks may be changed and arbors and all the things of this sort; plants may be moved, even very large ones, if the work is carefully and properly done. Really the only step which is not retraceable then is the very first, unless

perchance a large tree has grown up in the wrong place. But this we will come to later.

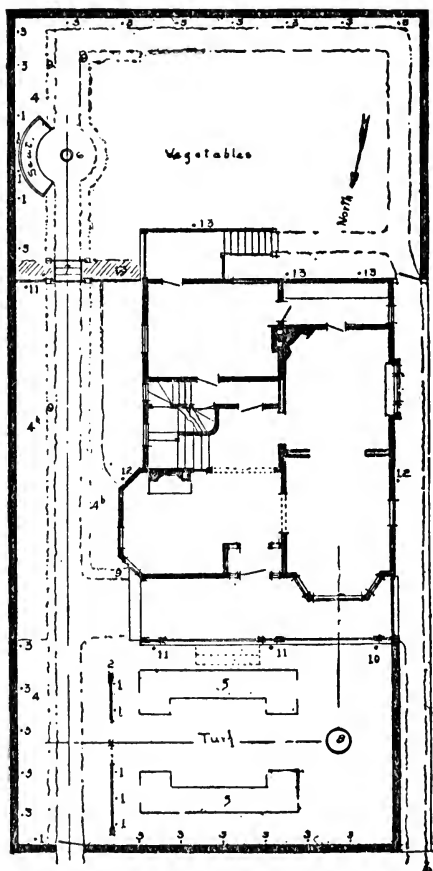
So all the way back to that first step we may go, and thus make a beginning with the second—the garden design. Of course this will be greatly influenced by the work already done, but after all it is not of necessity absolutely determined in all its parts by this. And its possibilities, though perhaps not as great as they might have been with a different start, are not by any means even hinted at in the usual negligent acceptance of it as it stands. With a plan of the ground and the house in its place on the ground, therefore, before us, let us begin the work just as we would go on from this point if it had been possible to start at the beginning.

The first thing in design is the border, quite as truly now as in the other instances; so the border allowance is the first thing to be laid off on the plan. How much this shall be depends on the border that is to be used, of course, but an allowance of two feet all around will cover wall and fruits, hedge, fence and fruits, or fence and flower border; this may, therefore, be made and the kind of an inclosure decided upon later. Then to the actual design—which is to be unified, you will recall, and held together first of all by giving it an axis from which to grow.

The house plan and the disposal of entrances and windows and all similar features will fix this, or will indicate its logical position. But the outdoors must be taken into consideration, too, and the most advantageous division of the ground insured. An axis should also be so located that it naturally invites the eye to follow its direction without obstructions to divert it. So here again I must ask you to refer to a diagram (page 108), made in this instance from a house as built on its plot—which was afterwards designed—in a typical suburban development. The house is 34 by 40 feet, exclusive of porches, and its front porch line is 25 feet back from the sidewalk. It is 4 feet from its boundary on the west, which leaves 12 feet at the other side, the lot being 50 by 100.

The entrance to the front in the original arrangement passed straight from the sidewalk to front steps. The old position of these is indicated by dotted lines in the diagram—for almost the first thing which required doing was their shifting. In their original position they opened the porch up too freely to the street, as well as necessitated an entrance walk in the midst of the small space before the house. Both of these were bad features, hence the change.

The whole place at best is cramped, and



V. Planting Plan.

1. Wall fruit trees, Verrier form.
2. Lattice with arched opening at X.
3. Wall fruit trees, palmetto form.
4. Flowers.
- 4b. Shade-enduring flowers.
5. Roses.
6. Sundial.
7. Steps down, arches over; on these a Dorothy Perkins rose and Clematis.
8. Terra cotta bird bath, 10 inches in diameter.
9. Turf edging to all flower spaces.
10. Sweetbriar rose; *rosa rubiginosa*, *Penzance hybrid*.
11. Climbing honeysuckle; *lonicera Halleana*.
12. Boston ivy; *ampelopsis Veitchii*.
13. Grapes.

the house, though fairly pleasant, is much broken up, with absolutely no axial points. Of course the ground outside it is also broken up and disjointed; this would follow naturally, and indeed is the case in almost all places of this kind. The two things most imperative, therefore, if a garden of any real distinction is to be expected, are something to give a sense of greater space, and an axis that will pull everything together—front and rear and side spaces, and house and garden, too. Such a line and only such a line will unify all these totally unlike and unrelated parts.

The front-to-back axis of the wider space at the side is the choice, although it cannot truthfully be called a “choice” as a matter of fact, for it is really the only line from which any beginning *can* be made. As soon as it is drawn it vindicates its insistence, however, by instantly revealing the key to the spaciousness which is so essential. The entrance falls naturally on it in the front; and then the far distance at its extreme other end immediately suggests a place for something which shall attract the eye the moment the entrance is reached, and distract it from the smallness of all the rest. As an actual fact the sundial as shown is more than 85 feet from the gateway where it is first

seen—a very creditable little vista for a small garden.

The house does not connect direct with this long axis, but it is sufficiently united with the garden generally through the lines of the broad walk leading from this to its steps; also by the locating of the bird bath at the point of intersection of the sitting-room axis with the transverse axis of the dooryard. A lattice extending across to the boundary at the rear and spanning the main walk with an arch, further draws house and garden together.

The entire garden is inclosed with a plastered wall made on a wood and galvanized wire lath framework, supported between brick piers. This is level on top and runs from a height of six feet in front to about eight in the rear, owing to the pitch of the land. It starts at the front corner of the house rather than on the boundary line, thus allowing space for the service entrance to pass along between the house and the boundary. This brings the service gate admitting to the garden at the rear of the house, where the wall completes its course at the house corner again and ends.

Here is the design in all its salient features, simple, restful, unusual, and yet not in the least startling. The most radical thing about it is the

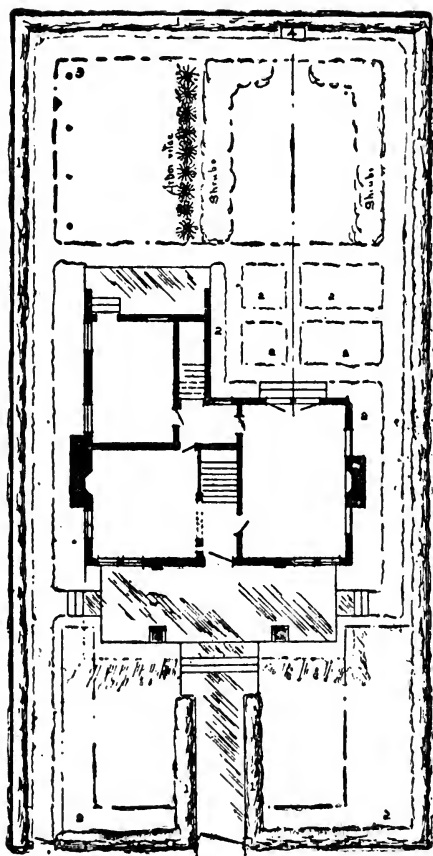
wall—and this will seem radical only for a little while, for its economic service as well as its very great charm will become apparent to all who see it.

Grades engage attention third on the list, so the grading is the next thing to be looked into here. Of course the dip of the land toward the rear was taken neither account nor advantage of, in the original smoothing down. It fell away in an even slope from about the front line of the house, with a lawn that was just like any lawn anywhere. Earth enough to grade to a level as far as the rear of the house where the lattice crosses was obtained from the back yard, on the railroad plan of cut and fill, the cut just making the fill. This secured the drop at the lattice which adds greatly to the interest and beauty of the long vista to the sundial standing on the lower level.

The first walks were granolithic; the present walks are gravel with brick edging. The gate is high and solid paneled except for a small latticed space suggestive of the old-time wicket, on a level with the eyes; its material is cypress and it is stained to match the cypress shingles of the upper part of the house. The lower story of this, by the way, is plastered, and the foundation is of brick; hence the plastered garden wall on brick piers.

No arbor or summer house seemed desirable here, as every bit of sunny space was wanted for practical use. A seat by the sundial may furnish a resting spot without shading any of the precious fruit space along the northeast wall as an arbor would have done. Yet a tiny gazebo on this wall at the end of the walk would not use up much space nor sunlight if one very much wished to have it. Personally I am always in favor of some out-in-the-garden shelter, but for those who do not feel that such a feature is absolutely essential to their happiness, it is perhaps as well to omit it on a small place—for it is likely not to be used, where there is no enthusiasm for it.

The planting of this place is of the highest economic efficiency, as the key shows. And it may be truthfully said that at least fifty per cent. of this efficiency is made possible by the wall whereon the fruits are growing. Every inch of this which is open toward the south is covered with these, and the rear wall too, which is reached only by the overhead and western sun, has been planted experimentally. No special drying yard or space for clothes is necessary, as a clothes reel is used which fits into a socket that is buried in a secondary path of the rear garden. This folds up and puts



VI. Planting Plan.

The suggested treatment of a neighboring plot the same size with a house of altogether different character is given, for comparison. The owner's desire in this instance is not so fixed upon the growth of useful things, owing to his absence during a large part of the summer. The house is centered on the plot, consequently there is no need for establishing an axis. Consequently, too, the design is bound to be symmetrical; hence symmetry is taken for its leading note, and a still more perfect balance than already exists in it is obtained by introducing the little Dutch garden in the angle of upright and L at the rear. From this a walk, corresponding to the service walk opposite, leads to the terrace in front. A hedge six feet high encloses the entire place, growing through and concealing a strong and impenetrable fence of galvanized wire. This hedge is carried up and over the main gateway in a clipped arch, and extends in from this to form a low border along the walk to the foot of the steps. Quite definitely the service yard is set apart and screened with arborvitae, faced with a winter shrubbery border; and a bronze piping Pan stands at the rear on the axis of the living room, Dutch garden and lawn.

1. Privet hedge, *Ligustrum Amurense*.
2. Flowers.
3. Dwarf fruit trees.
4. Faun.

away in the laundry between times. So the entire space at the rear of the house is an intensively cultivated vegetable garden—and I should not be surprised to see the similar area in front given over to the daintier vegetables some of these days, with flowers suitably ornamenting its borders!

Not a tree has been introduced save the wall fruits, nor are there any shrubs. In fact the limitations of this particular place and of this kind of place have been fully recognized and made to furnish its keynote. Yet it is richer by an inestimable degree in appearance, and in fact, than dozens of garden plots its size; and the interest and entertainment and pleasant delight within its stout walls are as much as one might find on many places containing acres. Flowers border the long, straight walk its entire length, yellow being the dominant color opposite the house to brighten the shade always resting there. Currant and gooseberry bushes flourish between this flower border and the house, from the bay of the hall back to the lattice. On the south side of the lattice, exposed to the sun, is a grape vine nearest the house, but next the wall there is a climbing rose which covers the arch and waves greeting to the outer world, where it peers above. A



One way to begin whatever the conditions is with climbing plants—and wherever there is a house there may be a garden all over it if climbing roses are used

honeysuckle grows in the shadier corner that faces the street, and ivy is slowly climbing the shady portion of the wall here and there. Three more grape vines spread themselves, one on a trellis against the rear porch, the other two on another against the rear of the house; and honeysuckle and sweetbrier roses climb the porch columns in front.

Between these two places, chosen as illustrations, there are of course all manner of things possible, even when a place has been started—providing the *conventional lack of garden is absolutely ignored* and all remembrance of it wiped off the slate. It is this which most seriously hampers the development of all small gardens. Until we rid ourselves of it, therefore, we need not expect to do more than has been done—we need not indeed expect to have gardens at all, but only grounds.

“From yon blue heaven above us bent,
The gardener Adam and his wife,
Smile at the claims of long descent.”
—*The Lady Clara Vere de Vere*—TENNYSON.

CHAPTER IX

PLANTING AND MAINTENANCE

Planting

ALTHOUGH anyone may bury the root end of a shrub or tree or any kind of vegetable under a mass of earth and do it thoroughly and completely, the operation of restoring to its native element vegetation which has been uprooted is not by any means successfully accomplished with such interment. Roots must not only be covered—they must actually be restored, as far as possible, to just the positions which they originally occupied; to the same depth in the soil and to the same perfect contact with it.

Perhaps it would express the truth more vividly if I were to say rootlets instead of roots, for it is the rootlets that are of the greatest im-

portance. Take care of these and the roots will take care of themselves—almost. For every tiny, hair-like root filament is a hungry little mouth, and the greatest tree is as dependent upon these as the humblest little annual, its massive woody roots being actually no more than anchors.

Contact with the food is the first mechanical essential to feeding, in either the vegetable or animal kingdom. The food of plants is taken in solution from the earth; in other words it is a liquid diet strictly, and it is absorbed through the delicate walls of these tiny, soft, tender little feeding rootlets, then passes up along the canal (which runs through even the tiniest) into the larger rootlets whence these spring, and so on, up and up until the main “trunk line” is reached; and then still up into branch and twig and leaf, every part receiving due proportion of its particular requirement as the transit is made. Finally, through the leaves, the water, strained of its organic and mineral content, is transpired and returns to the atmosphere. In the course of a single summer day an ordinary tree will yield fifty gallons of water—perhaps much more—under the insistent heat of the sun. And vegetation generally is calculated as transpiring from *forty to one hun-*

dred gallons of water to every pound of dry growth.

All plants as they grow, establish the equilibrium between their tops and their roots which this astonishing fact shows to be so important, so that the latter draw up just the right amount of water to supply what the former transpire. And this equilibrium *must be maintained*—which brings us to the first consideration incident to the work of planting, namely, the cutting back of tops to meet the root loss that is always unavoidable. It is not always easy to judge just what the latter has been, when stock is received from a nursery; yet careful examination of the roots will usually make it fairly clear—and a little more vigorous pruning at the top than seems absolutely necessary is always wise.

For instance, if one-quarter of a root system has been injured, one-third of the top should be sacrificed rather than one-fifth; for branch and leaf will make haste to put forth and catch up with the roots that overbalance them, whereas an insufficient root system, over-drained by too much top, cannot be made up so quickly and will cause the whole plant to languish and weaken, just as an underfed person or animal weakens, making it an especially susceptible subject for disease to attack.

Cut away all damaged roots in the first place, and trim all stumps smooth and clean of slivers and loose fibers, that there may be no place for fungus to lodge or decay to enter. Then cut away a little bit more, proportionately, at the top, taking care to preserve the character of the plant always, whether much or little is taken off. Branches cannot be snipped off here and there regardless of everything except getting rid of them, but selective pruning must reduce the plant everywhere equally. Usually it is possible simply to cut all branches back the requisite amount, but in the case of trees which progress distinctly by means of a leader—as the Lombardy poplar and the maidenhair tree or Ginkgo—the leader should not be cut. If it is, the tree's character is destroyed, even though it makes the noblest efforts to overcome the injury—for the ideal long, straight bole, uninterrupted from earth to tip, is impossible to restore once it has been tampered with.

Occasionally an entire branch will need to be removed, although nursery grown trees that have been well cared for will seldom show such superfluous growth. Where two branches rise from the trunk at the same point, one must always come out—and sometimes this result of gross negligence is found, even in nursery stock,

for there are many nurseries unfortunately where lax methods prevail. Two such branches with their double weight and consequent strain weaken the tree as they grow to maturity and invite a split at that point as the years advance. Remove the one which will least impair the tree's symmetry—and in removing it, cut away down level with the bark of the trunk, and leave *no stump whatsoever*.

Plants that have been packed and shipped always come out of their wrappings with roots very much compressed, naturally. Work them out carefully and into their natural positions in so far as it is possible to do so, before undertaking to plant them. Immersing them in water will soften and so help to restore them, if they persist in their constrained positions, providing a broad enough vessel is available. A wash tub will serve usually. Let them drain after such a bath, however, until the rootlets shake freely apart, otherwise it may do more harm than good by interfering with the free sifting of earth in and around each.

This is always to be the aim in planting—to surround every rootlet with earth, just as it was surrounded when it crowded its way through the soil where it first grew; to bring earth particles into close contact with it on every side, that it

may feed freely and uninterruptedly. In order to do this there must not be a great amount of moisture in the soil when planting is done; for moist earth packs in chunks rather than sifts, not only leaving rootlets hung in its midst but tearing many of them from the plant by reason of its weight. Therefore choose a dry time rather than a wet one for planting.

Holes must be dug to the full size of the spread of the roots after these have assumed their normal position, and to six inches below the depth of the deepest of them. Remember that roots grow at their tips, out and *down*, just as branches grow out and up; see that these tips are turned down, therefore. I speak of this particularly because there is always a tendency to shirk when it comes to making a hole the full depth required and *full size all the way down*; indeed I think I may say that I have never found a gardener, amateur or professional, who did not exhibit this tendency to a very marked degree. So I am perfectly certain the average beginner is not going to prove an exception—for he is pretty sure to be in a hurry and to want results, not work. It will not do to cheat, however, nor to assure oneself that it cannot matter much. The depth at which roots have established themselves below the surface is the depth

at which the right amount of air and of surface heat will reach them—and their restoration to this depth, particularly at their sensitive and growing tips, is absolutely essential.

The extra depth of six inches to which the hole is excavated is to be filled in with a mound or pyramid shaped cushion of good soil and well rotted manure, if the latter is available. If not, the soil alone will do, well stirred and loosened so that the lowest rootlets may quickly and easily penetrate it. Make this mound of the right slope and form to conform to the downward and outward sweep of the roots; then place the specimen upon it and jounce it up and down gently, that it may bed itself naturally upon the yielding earth cushion. Make sure now that the plant stands with the earth mark on its bole—or branches if it is a shrub—exactly level with the surface of the ground, and guard carefully against planting it either higher or lower than it stood originally. A straight board or stick long enough to lie on the ground and span the hole, put across it close up against the plant, will show exactly where the surface is coming when the hole is filled. If this is not at the right point, lift the specimen out and add earth or take it out as circumstances require.

Be careful—scrupulously careful—about all

these little things; they count. When just the right depth is secured and all the roots are adjusted over the earth cushion around the entire plant, with none turned under or up at the tips for lack of space to lie straight out, begin filling in with the light and richer top soil, throwing it into the pockets and crevices which will show around and within the root mass, and firming it down and in against the rootlets by hammering it gently with a roundheaded stick. An inverted broom handle is excellent for this.

It is safe and right to do this packing down of the earth or tamping much more firmly than the beginner usually thinks proper, for even with the greatest care there will still be tiny interstices here and there where rootlets will go hungry. So do not be apprehensive of overdoing it, unless the soil is moist and heavy—that is, like putty or dough. Do not plant at all however when soil is in this condition; it takes an expert to do that, and even he runs chances of failure.

But of course earth should not be beaten down into a state resembling cement, however dry it is. The idea is simply to overcome the looseness which follows its turning over and stirring about, and to settle it at once, instead

of waiting for it to settle itself, establishing by so doing close contact all around the feeding roots. While this tamping and filling in is being done, the specimen should be continually jolted lightly up and down to induce further settling of the earth into obscure pockets and underneath and around roots that are beyond reach. Thus gradually it will sift into place, if the work is not hurried or slighted, and an almost complete restoration of the plant to its original condition will be accomplished.

As soon as roots are covered and the plant is fixed, the delicate part of the operation is done. The earth should continually be firmed, however, as it is thrown in, by treading it down, until only a saucer-like depression over the entire hole remains. Stop right here and fill this with water. It may take a pailful, perhaps less; more is hardly necessary, although it will do no harm. Pour it in around the edges, gently, so the earth will not be washed back or to one side, and let it have time to settle gradually. When it has all disappeared, fill in the remaining earth, not packing it, however, save with slaps of the shovel broadside. Leave at the last a half inch sprinkling of loose earth on top as a dust mulch to retain moisture.

This completes the actual planting; the sea-

son of the year will determine whether or not anything further must be done. If it is spring-time, this is enough, but if it is fall a mulch of straw or leaves eight inches deep or more must be made ready to cover the entire area disturbed as soon as frost enters the ground. This must be retained by branches or loose sticks laid over it, until frost finally leaves again, in the spring; and instead of watering the plant later in the summer, keep the natural moisture in the ground by tilling the entire space lightly.

Planting may be done either in spring or fall, with but few exceptions. Cone-bearing evergreens are not usually handled at either season, however, August and early September being the accepted time for moving these. The broad-leaved evergreens, such as rhododendrons, are most successfully moved in the spring; and thin barked trees, such as the birch or beech, are likely to suffer when shifted at any other time. Personally I prefer fall for all other general planting, owing to the more settled weather conditions which prevail, and the even temperature and warmth of the soil at that season. In places where severe winters are the rule it is not advisable, however, neither should it ever be undertaken on land that is cold and wet.

Evergreens, both cone-bearing and broad-leaved, must have a little space all to themselves, for their treatment is very special and they are very risky things to handle out of the ground. Never buy them unless you are assured that they will be dug with a ball of earth clinging to their roots, which will be properly burlaped as soon as the specimen is lifted from the ground and carefully packed to assure its remaining in place in transit. Do not open this packing until the hole to receive the plant is dug to the proper depth and a little larger than the earth ball and is ready to receive it, with no manure uncovered, but with a sifting of fine earth over any that may have been used to prevent the roots from coming in contact with it.

Then cut the stitches which hold the burlap, lift the plant into the hole still inclosed in it, and finally work it down gradually on all sides and under the earth ball, being careful to keep this intact if it is possible to do so. To this end, evergreens must never be shaken and jolted as deciduous plants are, but should be held still while the fine top soil is sifted around and tamped under and against the ball of earth about their roots. This tamping should be very firmly done indeed, underneath and then gradually up and around the sides. The burlap is

left in the hole and buried—for being vegetable matter it will ultimately disintegrate.

Leave a depression just as in filling in about deciduous plants—in this instance it will be a ring, however, at the circumference of the earth ball, instead of a saucer—into which pour water gently that it may leach down and complete the welding of earth particles together. Finally, fill this depression and spread a mulch of packing or of straw or litter over all the surface above the roots. This is to prevent scorching by the direct rays of the sun, as well as to conserve all the moisture possible—for evergreens generally are planted in August, when the sun is hot.

Transplanting

Of course all planting is transplanting, in one sense; yet we ordinarily consider the specimens which are shipped to a place from a nursery as “planted” only, while local growth is regarded as “transplanted.” Hence the opportunity which this transplanting affords is my only one to say anything about the uprooting of a tree, shrub, or other specimen, although it is quite as essential an element of successful gardening to know how to unplant as it is to know how to plant.

Patience is the greatest of virtues, and most virtuous of handmaidens in all gardening—but nowhere so necessary as here. Yet nowhere is she so likely to elude the gardener as when he stands, anxious and eager and baffled and perspiring, before the feeble plant which he is bent on transferring to another spot, and which is equally bent, in its own inert plant way, on staying where it is. Clutching the earth frantically, but secretly, it refuses to be budged—and the struggle is one surely calculated to make or break character. The one hope of the toiler is to take time, thereby retaining patience—but even then it is a fierce trial more often than not. I am saying all this that you may be prepared—fully prepared—and hence may approach the task warily and with a chance of victory, moral as well as physical. For the man who has never tried to unplant an established growth, and who attacks the proposition unwarned and unsuspecting, needs sympathy—and has mine.

Begin at the tip of the roots; that is, begin taking off the earth at the circumference of the plant's circle rather than at its center. This circumference can be pretty accurately determined by the spread of the branches, for these usually reach outward above ground about as far as the roots do below. A crowbar or pickax should

be used to loosen the soil, with interludes of removing this with spade or shovel. Work always sidewise to the plant and parallel with the line of root growth; which is of course, generally speaking, outward from the center like the spokes of a wheel; or else work with back to the plant, until the root tips have been uncovered anyway. This avoids cutting across the roots and saves a much greater percentage of them than the more careless method of working around the plant, facing it.

Gradually its hold may be loosened by tipping it forward and back and lifting on it gently, as the soil is continually picked apart and scraped away from between and beneath the roots. Follow all long roots away and down as far as may be necessary to free their tips, and never yank at the plant or use violence to liberate it. A strong, steady pull, with persistent loosening of the earth where the strain shows its hold to be strongest, will bring the tenderest root fibers out uninjured, whereas a quick jerk will snap even great woody growths in two.

Once out of the ground, root pruning and top pruning, as already directed, should be performed; and immediate replanting is of course most desirable. If this is not possible for any

reason, put the plant in a shady place out of the wind and cover the roots with enough earth to prevent their drying out. Thus heeled in a thing may lay for days without suffering.

Pruning

Only generalities may be given here, for this is a subject which grows somewhat complicated as one goes into its special phases; hence it requires special treatment. Probably the one thing which needs saying most emphatically and reiterating again and again with regard to pruning is:—do not prune at all unless you know exactly why you are doing it and exactly how to do it for that particular purpose. Nature herself will attend to a good bit of this work and with far better effect than man, misguided.

Very little pruning should ever be necessary in the case of ordinary trees and shrubs. Leave them to grow in their own way, removing only dead or injured wood in the spring, when failure to make leaf growth reveals this to you; thus the true character and beauty of each kind of tree or shrub will develop unhampered. Rub off the little adventitious buds which appear on the trunks of trees *as soon* as they appear, never letting sprouts grow either along a trunk

or at its base. These are robbers, for they are always of rank, lush growth that takes up more of the tree food on its way to the leaves and branches above than would seem possible.

There are two principles involved in pruning which must be understood and remembered, if the work is to be done intelligently. These are fixed by the system of growth common to all plants—that is, growth at the tips or extremities. Branches lengthen, branchlets lengthen, and new branches form always by means of terminal or tip buds, and all growth is invariably carried on in this way. The run of sap is always to the plant's remotest part, and intermediate growth is taken care of incidentally rather than primarily. If a terminal bud is injured or destroyed, therefore, the sap, coming strong and full to the point where it was, stimulates the buds next below it into abnormal activity and these make haste to rush out into branches, each striving for the place of leader until one finally does gain an advantage which nips the others because it then appropriates the leader's share of nourishment.

Removal of terminal buds, therefore, will always thicken growth rather than thin it; so in pruning to thin out remember that it is not enough to do less than remove an entire branch

at the point where it rises. On the other hand, where heavier growth is desired, tips only should be cut away, thus inducing many branches. Cut down to the point whence you wish the thicker growth to spring, for it is always from near the ends of the stubs that the branches will put forth; and prune always just above outstanding buds, to insure open growth and free center.

The best time for pruning generally is when activity is at the highest point, but before growth has advanced sufficiently to cause waste through sacrificing it—hence in the spring, just as buds are bursting or about to burst. Wounds made at this time quickly heal, and the full effect of pruning for thicker growth is immediately gained. Spring flowering shrubs should not be pruned, however, until after they have finished blooming, otherwise their bloom will be lost.

This matter of the healing of wounds is a most important one—as important to a tree as to a man. For an unhealed wound is an invitation to disease which may ultimately destroy the plant, more especially if it happens to be a tree. But in spite of all that has been said and written with regard to the amputation of branches from trees, practically every community shows scores

of freshly made improper cuts. Why it is that most people seem unable to bring themselves to cut through a limb at its very base, clean down at the trunk from which it springs, I cannot imagine; but for one tree properly pruned by such close cutting there are fifty, perhaps twice that number, showing unhealed stumps all the way from half an inch to four or five inches long.

There is just one right way to cut a branch, large or small, from another branch or trunk; that is, to lay the saw which is to do the cutting, flat against the trunk, and thus make a cut so close that practically all traces of the branch removed are smoothed away. Such a wound will be larger around than we are accustomed to see, to be sure, but its diameter is of no real consequence. The point is to make its surface so flat and smooth and easily covered that the bark—or skin—will quickly grow over it; and this it will often do in an incredibly short time, leaving sometimes a hardly perceptible scar.

Insects and Pests

The San José scale is now so common that preventive measures are advisable even though its presence is not actually discovered on one's own trees and shrubs. The lime-sulphur wash or the kerosene emulsion, both of which may be

purchased ready prepared and diluted and applied according to directions which come with them, are the most satisfactory and effective remedies for holding the scale in check. The fact that the former is a fungicide as well as an insecticide makes it doubly valuable. Neither should be used excepting on absolutely dormant vegetation, however, for they may injure soft-growing parts irreparably.

Either will prove perfectly satisfactory, however, if used carefully according to the instructions. And I prefer to use a fungicide as well as an insecticide whenever possible, for fungi are more subtle and less easy to conquer than any insect. Of course bordeaux mixture may be added to all insect sprays, but this is usually done later in summer when vegetation is in full leaf. For all fungous diseases it is the early and constant preventive treatment that counts. There is really nothing that can be done, once a disease is established within a plant's tissues.

Scale insects are likely to escape attention unless one is on the lookout for them; but worms and plant lice are unpleasantly in evidence whenever they are present, hence they need not be treated unless actually seen. A common soap spray will make short work of the latter, providing it reaches them all. It may have to be

used with great persistence to get rid of them all, however, for they multiply with fearful rapidity and each one must be drenched with the liquid in order to exterminate them. For these belong to the same general class as the scale insects—the class which feeds on the plant's juices rather than on its tissues, and cannot therefore be poisoned directly, but only by contact.

Use one-quarter of a cake of any common laundry soap to four gallons of water, dissolving by heat and applying hot and on successive days until none of the insects alive are to be found. Leaves curling down or back are a pretty sure sign of their presence, for they infest the under side, which, drying out under their persistent little bills, shrinks and rolls back. Worms, on the contrary, eat plant tissue always, hence may be poisoned directly. For these arsenate of lead is preferable to paris green or any other direct poison; it comes in prepared forms.

Directions for the use of sprays and poisons of all kinds should always be followed scrupulously, both as to proportion to be used and the time to do the work of applying; for even a day or two earlier or later than the stipulated time may make all the difference between success and failure in combating any particular

pest, while lack of care in apportioning a poison may mean the loss of an entire year's growth at least, if not death to the plant so injured.

There is one insect which I must particularly say a word for, while I am on the subject, however; that is the bee. There are no better servants in the garden than these velvet-clad little pages, and their liberty to go and come unharmed should always be assured. Without them we should have very little fruit and few vegetables, and it is a cruel mistake to suppose that it is the bees' visits to a flower that cause it to fade. The bees are attracted when the pollen is ripe because they are needed then to transfer it from flower to flower. As soon as pollen is ripe and falls, the petals fall, for then the flowers' work is done and the formation of fruit is assured. So it is coincident with the bee's visit that the petals fall, or immediately following it; but the visit itself neither hastens this nor affects the life of the flower in the least. Do not try to drive away or destroy honey bees, therefore—as I have known some to advocate.

Fertilizers

Never use a fertilizer because it has benefited someone else's garden; it may not be good for

yours at all. Generally speaking, we put too much faith in fertilizers and too little in good care; and many a garden starves for lack of the tillage which would conserve moisture and so make available the plant food with which the soil is loaded, rather than for lack of the food itself. What is called a complete fertilizer, however, which simply means a fertilizer combination consisting of the three principal fertilizer elements in the proportion of one part nitrogen, two parts phosphoric acid, and three parts potash, may usually be used on ordinary soil to the garden's advantage. Fancy mixtures and wonder workers, however, are a waste of time and money—and faith.

In addition to fertilizer, or rather as a preliminary treatment, sour soils need lime. Heavy soils are lightened by it, too, and as sour soils are invariably heavy, it serves a double purpose when applied to these. It changes the soil in such a way that the plant food in it is more readily taken up. Coal ashes are excellent to mix with earth that is sticky and heavy or stiff and cold, though they have no fertilizing value. But they lighten such soils and make them friable and more gracious. Stable manure is as good as any fertilizer that can be obtained, wherever it may be turned into the ground by

spading; but never use it on a lawn under any circumstances, for the weed seeds which it contains will work more ruin in a single season than can be undone in many, if ever. Sheep manure only is suitable for lawn fertilizer; stable manure is fit only for the garden, where it can be used literally *in* the earth.

Lawns

The growth of a thick rich turf carpet is never a matter of exceptional soil nor of much enriching; rather it is a matter of careful mechanical preparation of the soil in the first place, of selection of proper seed to suit the peculiarities of the site, if it have peculiarities, in the second, and of proper care third and finally. Nothing can be done with subsoil excavated from the house cellar and piled upon top of the good top soil in grading after building operations are completed; on the other hand, very rich soil is as likely to be a disadvantage as not, in that it stimulates to so rapid a growth that there is not sufficient root development to withstand drought. But any ordinary soil, even a poor soil, offers opportunity for as fine a lawn as one could wish, if a proper start is made.

Whatever the conditions, deep working is the first step, with an application of lime anywhere except in a limestone region. Allow from sixty to sixty-five pounds to a plot 25 by 100 feet in size. When the general surface has been leveled after working over to a depth of eight or ten inches or even more, seed freely, using only seed from the highest grade nursery or seedman. Buy always by weight, never by dry measure; and get the selected, recleaned seed. It costs more than the chaff and sweepings which make up the cheaper grades, but it is more than worth the difference. Allow between six and seven pounds for a space 25 by 100 feet.

The six weeks from the beginning of April on are usually the best for sowing a new lawn, although fall sowing is a great advantage if one can be ready for it by the end of September. Within five or six weeks from the time of sowing, if this is done in the spring, the first clipping should be done, providing all conditions have been favorable. This seems very soon perhaps, but it is this early cutting which helps to make a dense and compact stand eventually.

Grass should never be cut shorter than two inches on either new or old lawns, for its roots are left unprotected from the scorching sun when it is shorter than this, and this means that

dry weather or very hot will burn it sere and brown. Mow often, even as often as every fourth or fifth day if necessary to keep at this height, especially on a new lawn; and never rake away the clippings. They form the best possible mulch and fertilizer, and are so short when mowing is done as often and as regularly as it should be that they sift down among the standing grass immediately and are lost to sight. Reseed all bare spots every spring and take out weeds as fast as they appear, peppering with seed the space which is thus left bare, whatever the season. This is the sort of care and watchfulness that achieves perfection with the minimum of labor, promptness being its chief feature.

PART II

CONCERNED WITH NATURE'S CONTRIBUTION



“I think that I shall never see
A poem lovely as a tree.

“A tree whose hungry mouth is pressed
Against the earth’s sweet, flowing breast;

“A tree that looks at God all day
And lifts her leafy arms to pray;

“A tree that may in summer wear
A nest of robins in her hair;

“Upon whose bosom snow has lain;
Who intimately lives with rain.

“Poems are made by fools like me,
But only God can make a tree.”

—*Trees*—JOYCE KILMER.

CHAPTER X

TREES AND THEIR PURPOSE

MOST permanent of vegetable forms, trees demand our first consideration when plans have progressed far enough to let us think about the actual planting of the garden; for all its animate and growing features depend upon whether the decision is for or against trees—and upon the placing of them if it is the former. It seems contrary to almost sacred tradition to

say a word which may be interpreted as actually against the use of trees; yet I feel that I must warn the owner of the small place in the very beginning that there is a possibility of the negative decision being better in his particular case. Such a place has its opportunities at best only through the most careful conservation of its restricted spaces; hence trees very easily may become an extravagance in that they use up more, proportionately, than they give. A very delicate balance between all the parts and features of such a garden must be established and maintained, if its greatest and best opportunities are to be realized.

But this hardly means that there shall not be a single tree; rather it means that often there shall be no more than a single tree—and that there shall never be many trees on the typical suburban place. For if there are many there can be nothing else. Trees are exacting both above and below ground—as becomes their importance and dignity—and the lesser growth must wait on them and keep its distance, with few exceptions. Which is another proof, if another were needed, of the folly of attempting to plan a small place in the landscape style. For the things which, like trees, are essentially of the landscape, and essential to a landscape gar-

den, cannot in close quarters take the place in perspective which should be theirs. They will always overshadow on a small place—literally as well as figuratively—the entire conception, if an attempt is made to introduce them in numbers and in a natural arrangement.

It is not trees in the aggregate and in their sublime forest aspect, therefore, that we may consider here; but trees as individuals and in the closest domestic relation. So the first question, naturally, will have to do with that relation. What is it to be—the purely polite and æsthetic, or the practical and utilitarian? In other words, shall the selection be for shade and ornament, or for fruit?

This is another of those questions which personal preference must decide. Almost any fruit tree, excepting the apple, may be used with quite as good effect pictorially anywhere as an ornamental tree. The apple alone, as usually grown, is too irregular in its form to be admitted to the formal environment of a small garden. It is something of an effort to wrench the mind free from traditional shade trees, however, and as yet there are not many small garden examples to show the possibilities of such emancipation, or to furnish encouragement to the uncertain.

All town streets will of course always be planted with ornamental trees, quite properly; but for all those small gardens where trees are possible, I cannot feel that the purely ornamental are quite as suitable, as a matter of fact, as the more truly domestic trees which have companied with man so many ages. The latter suit his immediate environment more completely, consequently they suit the very artificial conditions which his presence *en masse* creates, very much better than oaks and elms, beeches and hickorys, and all the forest royalties possibly can. However strange it may seem to us at first to think of using fruit trees altogether, there is, too, most ancient and excellent precedent for them rather than ornamental trees, in such planting. Indeed our present practice is very modern—almost wholly of to-day—and prevails only where man has not yet learned values and where proportions are distorted.

But whatever the choice, the first and most important thing to be settled about a tree, on small grounds especially, is its location. This is influenced by several things, some with an elusive tendency to wait until the tree planter has done his work before presenting themselves. The thought of shade and inviting summer cool-

ness is probably uppermost, for one thing, when trees are being considered, which is quite right and natural. But the maximum shadow and shelter from sun and heat are not by any means always attained in the way that seems most likely at first thought. For the impulse is usually to shade the dwelling; whereas it is the earth from which heat is reflected into the dwelling that should be shaded, rather than the building.

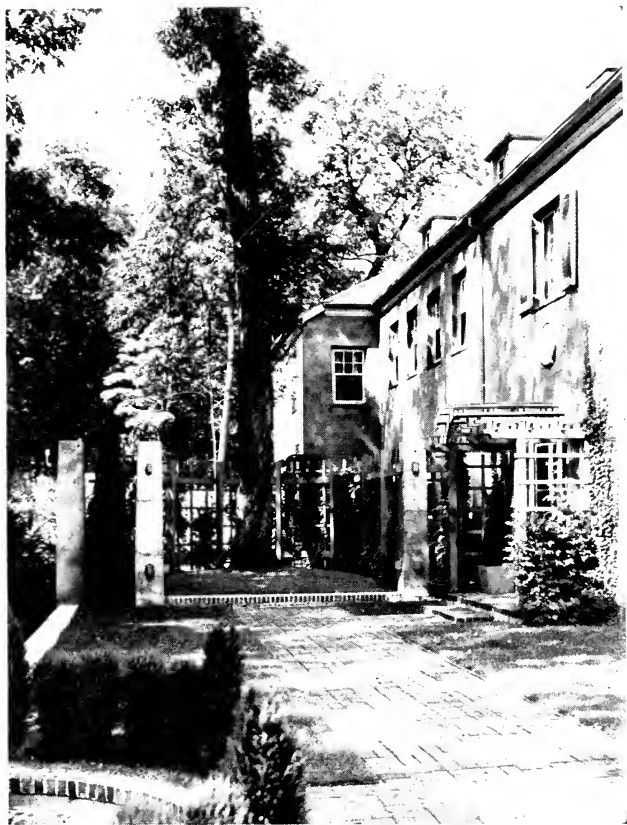
Shutters will provide for the house itself, its windows and doors, infinitely better protection from the sun than trees can give, for shutters admit every vagrant breeze, however indolent and languid it may be, while leafy branches deflect and break up even valiant attempts of the wind to a considerable degree. The right position for a tree is far enough from the house to admit the air, therefore, but near enough to shade the ground about it where otherwise the sun would beat with its fiercest heat during the hottest hours of the day—a position which is best determined usually out of doors, on the ground itself, at midday, rather than on a plan.

Almost any upright object will serve as a guide to the shadow's direction, which is the main thing to know. One's own shadow will

show this, of course, but as it is sometimes necessary to get some distance away in order to calculate various phases of the effect, it will be found more expeditious to use a stake five feet or more long, instead of to rely on this. Such a stake, representing the bole or main trunk of a tree, will give the middle of its shadow and will at the same time show the tree's position definitely in its perspective relation to windows and the house generally, thus indicating its possible effect on air currents.

The maximum heat of the day during the heated period is usually between eleven and three o'clock—hence it is the line of shadow between these hours that should be thrown on the midst of the area that it is desired to shade. But the other sultry hours need not be unconsidered by any means; and often a tree may be so placed that it will afford much more protection than seems possible, or than would be possible if its shadow were required over a porch or door or window. The shadow, of course, travels around the tree; it best serves our purpose when the tree is so placed that it travels in the general direction of the expanse which we wish to shade.

The kinds of ornamental tree from which choice may be made for the type of place to



No worthier motif than a tree can be found to inspire a feature that shall distinguish the garden, for the importance of a tree within the garden invariably demands emphasis



which we are confining ourselves are not so many that there need be difficulty in choosing. The picturesque cannot be admitted, consistently; only trees of orderly growth—the well-behaved, conventional, and seemingly members of the tree race—will look at home and harmonize with the sharply defined limits of suburban cultivation. Curiously enough, although we have many native to this continent which, properly grown, would fulfill these requirements, exotics are largely used where small trees are desired, Japan and China furnishing the most of them. There seems to be no good reason for this except the fact that the trees of Japan are remarkably free from annoying blights; and that our insects do not seem to relish them as well as they do home-grown provender—two advantages that make them highly desirable for the ordinary garden, without doubt.

Still I do not feel that we should neglect the material which is at hand when much of it is of such fine quality and rare beauty—and no more susceptible to blights and bugs than the Japanese stock. And I have made it a rule not to use exotics when native growth that would serve as well was obtainable. Many times it is not to be had, however, for few nurserymen will work with native trees as they will with

foreign—or as the nurserymen of Japan have worked to attain the superlative merit with their native material which there is no denying it possesses. We do not know, as a consequence, what possibilities we may have here.

There is, however, the hop tree or wafer ash—*Ptelea trifoliata*—less than twenty-five feet in height often, never more, neat and clean cut; the mountain ash—*Sorbus Americana*—evenly round headed and trim, reaching thirty feet and having great clusters of scarlet berries gleaming among its green in late summer and autumn; the shadbush or service berry—*Amelanchier Canadensis*, also *Amelanchier Botryopium*—the former sometimes reaching fifty feet, the latter stopping at twenty-five or thirty; the cock-spur thorn—*Crataegus Crus-galli*—twenty-five feet tall, and carrying dull red fruits all winter; and the fringe tree—*Chionanthus Virginica*—twenty to thirty feet high and branching low on its trunk, yet nevertheless a tree and not a shrub. Then there are the two small maples—*Acer spicatum* and *Acer Pennsylvanicum*—the mountain maple and the moosewood or striped maple, the first rather bushy and about thirty feet in height, the second short of trunk but less bushy and forty feet high; all these at least are available and are very gen-

erally carried by first-class nurseries now. And finally, at the end of the list so that it may never be overlooked or forgotten, our peerless dogwood, the tree that is unrivaled by any other flowering tree in the world—*Cornus florida*.

With this array does it not truly seem that there is very little reason or excuse for going beyond our own boundaries for small trees with which to furnish our most diminutive gardens? It is only a matter of knowing and choosing right—and of being a little less ardent in the pursuit of novelty.

Just why trees or shrubs which have foliage which is abnormal in one way or another should appeal so strongly to popular fancy has always been a problem beyond explanation or solution. I suppose it may be for the same reason that human and animal freaks in the circus side-show draw; just one of those twists in human nature that cannot be accounted for. But even those of us who love to shiver at the sight of monstrosities would hardly be willing to keep company with them day in and day out and have them perpetually before us. Why, then, are we willing to tolerate, and eager to acquire for our own, similar variations from the type in the vegetable world? Only because we do not quite realize the truth about these varia-

tions probably, hence do not appreciate what we are inflicting upon ourselves and upon our neighbors.

All of which is apropos of the craze for varicolored foliage, for the golden this and the silver that—and the blue spruce. Growing in the little groves of its kind as Nature scatters it, or here and there on the banks of western streams, this tree is an interesting, beautiful and attractive species; but brought into the dooryard and set down under the windows it is almost invariably out of key with everything in sight. And so far from being impressive after its youth is past, its symmetrical beauty of form is early lost and it becomes ugly and unsightly.

Be sure that the normal type of vegetation is the only safe type to plant—safe because permanent, and truly beautiful because normal; do not let the promises of any person, interested or disinterested, avail to break a resolution to stick to this. When in doubt about anything, or almost persuaded, yet not certain of the effect that will result, *do not buy*. Test the fitness of every specimen introduced by the good stiff test of logic and common sense.

It is with the adornment of outdoors precisely the same as with the adornment of indoors; deep, quiet tones extend lines and distances as

well as produce an effect that is full of repose, permanent and restful. Masses do the same, as opposed to the nervousness of scattered treatment and its consequent clutter.

Just as a room with plenty of simple, broad, unornamented spaces is refreshing and like a tonic after an interval spent in the curio-collection type of apartment, so is a garden free from all bizarre effects when contrasted with the nurseries of vegetable color marvels which some are deluded into planting. Purple forms of beech tree and barberry bush are practically the only variations from typical foliage color which are tolerable; these two are indeed very beautiful in the right place, as a matter of fact. But remember that restraint is always safer than extravagance, and that the small garden is perforce denied many things which a larger place may indulge.

“In winter, when the dismal rain
Comes down in slanting lines,
And Wind, that grand old harper, smote
His thunder-harp of pines.”
—*A Life Drama*—ALEXANDER SMITH.

CHAPTER XI

THE USE AND ABUSE OF EVERGREENS

WITH the desire to maintain cheer of living green around the home during the winter I wish to say at once that I sympathize wholly, inasmuch as I shall appear to be, for a little at least, opposed to what very evidently seems to great numbers of people the only way of securing what they want. Bear with me however, and let us see if there are not better ways than the common practice of misusing infant evergreens, to this end.

For that is all that the most of the small evergreens we see used in massing around buildings, are—small because young and not grown. And they are not, of course, shrubs, though some persons call them shrubs when urging that they be grouped against the foundations of a building

for winter effect. But a shrub is a distinct kind of growth; never the immature form of any tree. And because there are true evergreen shrubs it would seem that we should be careful and not misapply the word to young cone-bearing trees—otherwise trees of the great botanical order *Coniferae*.

To come at once at the heart of this misapplication and misuse, I contend that, whatever its size may be when it is set out, a tree is a tree for all that—hence to be situated as a tree and not as a shrub. That is the first point. The second is that the individuality of each kind of cone-bearer is so distinct, so positive, so assertive that we should recognize the futility of any attempt to bring it into harmonious relation with other kinds, under a system of grouping such as we find so effective when we deal with shrubs or even with certain deciduous trees. Evergreens indeed belong to a totally different class of vegetation from any other and demand to be thought of differently and to be used under a different concept; in which connection it may be interesting to say that they are regarded by some authorities on plant biology as a really passing race.

That is, they belong with a past age—are the remnants of it perhaps—and show now, to

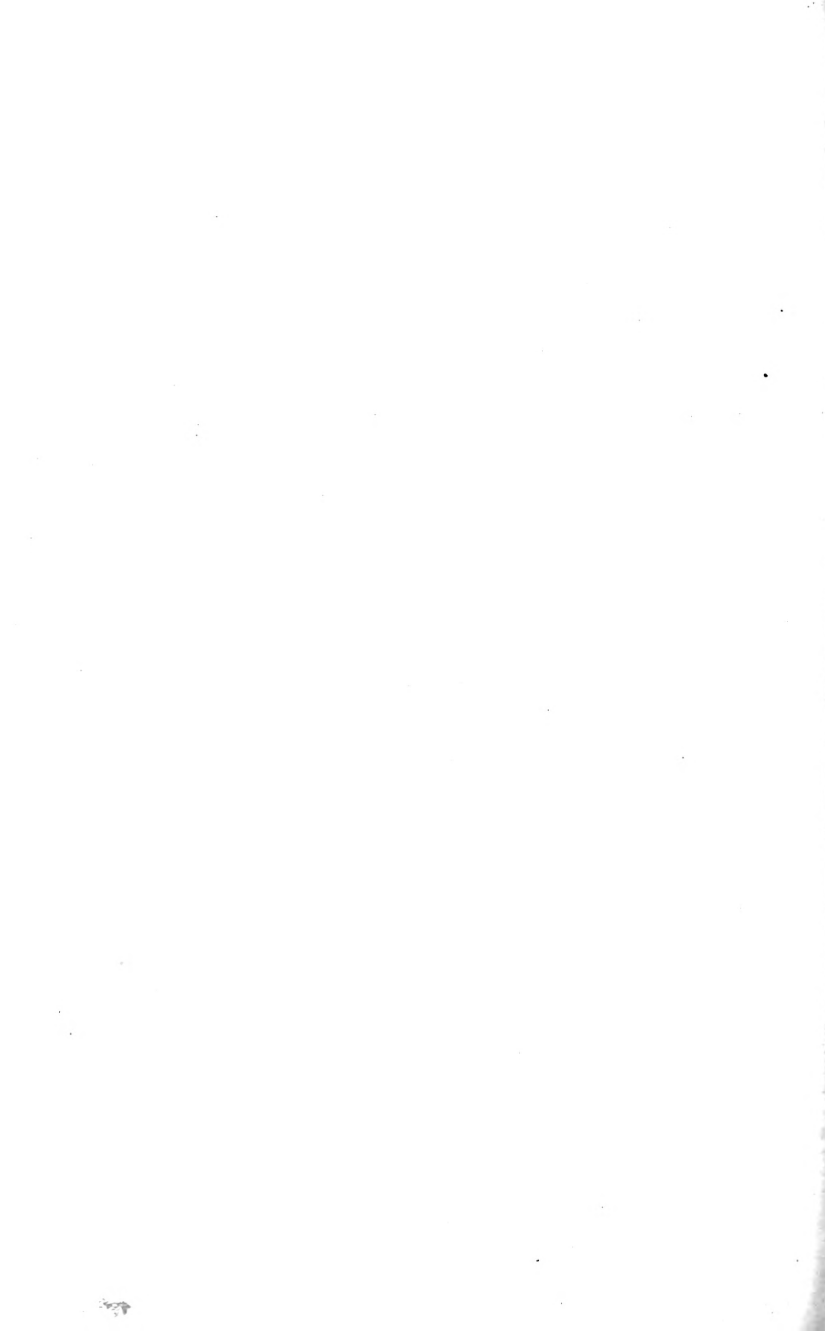
those who understand, the characteristics of their struggle to survive the changed conditions of the present and a certain desperate effort to adapt themselves and thus to escape extinction. When it is remembered that there have been mighty groups of animals, of men, and of many forms of vegetation that are no longer to be found anywhere on the earth, it is not difficult to realize that this process of extinction may perfectly well be going on right under our eyes. Indeed, why should it not be? What is more probable?

All of which makes the conifer more interesting, and certainly to be treated with the greatest consideration and a better understanding than leads to its use haphazard as "shrubby" to hide a cellar wall. Yet to hide our cellar walls with something that will be effective winter as well as summer, we often wish; and this brings me to the consideration first of evergreen shrubs. For there are many of these, every one beautiful and some bearing beautiful flowers or beautiful fruits; and of course they lend themselves to the foundation massing which is so desired, perfectly well.

Which is not the case with the trees; for of all the great cone-bearing class there are really only two suited to the small garden. These are



Only one kind of evergreen suits the average small place whether it is planted to form a wall as are these arborvitæ enclosing a water-flower garden, or scattered naturally about



the arborvitæ, which is sometimes called white cedar, and the red cedar—the first being *Thuya occidentalis* and the second *Juniperus communis*. Out of the countless nursery varieties of these it is possible to get a considerable variation in appearance—if this were desirable. But variation of this character is exactly what the best standards of planting avoid, for reasons which I will try to make clear, though standards are sometimes difficult things to explain definitely. Just why one thing is good while another is bad positively defies expression in words, now and then.

But in general I think a safe guide in garden standards is the sense of repose. No design or planting which is not restful and unobtrusive, is good; and no design that is dominated by contrasts is either of these. Above all else indeed a garden must have unbroken mass—not kaleidoscopic variety; and it must be true mass, else it will almost certainly degenerate into mess. The groups of small evergreens of which I spoke at the beginning of the chapter, for example, are called masses by their advocates and admirers—and they are of course a mass of evergreens. But they are all different in kind; therefore they are not what I term a true mass. To be this the group must be confined to one variety only,

must be a mass of junipers or *arborvitæ* or pines or firs; then it has continuity and dignity and repose.

With no class of vegetation is this distinction so aggressive, if I may put it that way, as it is with evergreens, although it is always apparent and decidedly in evidence to the discriminating observer. A mass of shrubbery is better for being made up of six or seven kinds instead of fifteen or twenty; a group of deciduous trees likewise must be limited in varieties if it is not to look like a collection instead of part of a landscape; and flowers lose in effect in inverse ratio to the number of colors and kinds which a single mass contains. But in none of these is there such striking disharmony as in a group of many kinds of evergreens, partly because the former are not confined when growing in the wild to groups containing only one variety, perhaps, while evergreens almost invariably are; largely because the individuality of evergreens is so much more marked that two kinds in combination never blend in the slightest degree, as deciduous growth does. On the contrary, each specimen stands apart, however close it may be put to its neighbors, protesting and indignant at the affront which such treatment imposes.

While the small garden may be allowed two

kinds of deciduous tree, therefore, such as the single dogwood or single wafer ash and an oak mentioned in the last chapter, it should never entertain more than one kind of evergreen—or, more strictly speaking, conifer. Several of this one kind may find space, of course; but however large the number possible, never allow but the one variety. My own preference is for the arborvitæ as being more generally suitable in every way to small quarters. It may attain a height of fifty or sixty feet at maturity (they are seldom to be found this size), but even at this height it remains narrow and therefore does not usurp space required for other things, or for open air and sunlight. And it possesses much beauty to recommend it and is a sturdy, hardy, thrifty specimen. The Siberian variety is preferred to the native by some, as it is less likely to burn under the winter sun and show dead places as a consequence, when planted in a hedge. I have found the native (*Thuja occidentalis*) quite as satisfactory for general planting, however, and its taller, slimmer form is more to my liking; but that is of course a matter of personal taste. (The Siberian variety is *Thuja occidentalis*, *Wareana*.)

The red cedar or juniper is our one best material for effects inspired by the Italian

cypress; and it is useful also wherever an arborvitæ might be used, inasmuch as it has the same columnar form. In texture it is more ethereal than the arborvitæ, even while it is darker and duller in color; and as it ages it loses its lower branches and gradually becomes broad topped and picturesquely irregular and distorted. Wherefore, though this is not characteristic until long after its youth and even middle age are passed, it cannot be used where an absolutely permanent pyramidal or columnar form is required, as the arborvitæ can.

Of the small and interesting conifers from Japan and China that are constantly becoming more available as the stock sent out by the Arnold Arboretum—whence practically all of these have come—is built up by those growers fortunate enough to have acquired it, it must be said that they do seem to meet the desire for diminutive material that will not outgrow its surroundings. But with these, as with all others of this class, be counseled to avoid mixing. If the *retinospora* is chosen, use only this and of one variety. It will make a fine, dense screen too high to see over, if this is needed, or it will mark the points of the design if such marking seems desirable. It too is, as a matter of fact, a juvenile form; but as it is somewhat re-

strained from attaining normal size by selection in propagating, and is further affected by the struggle to adapt in order to survive the changing conditions of which I have spoken, the *retinospora* will not become a tree such as the arborvitæ or juniper.

“Go down to Kew in lilac-time, in lilac-time, in lilac-time;
Go down to Kew in lilac-time (it isn't far from London!)
And you shall wander hand in hand with love in summer's wonderland;
Go down to Kew in lilac-time (it isn't far from London!).
—“*Go Down to Kew in Lilac-time*”—ALFRED NOYES.

CHAPTER XII

SHRUBBERY AND SHRUBS

IT is the common habit to think of and make use of shrubs—almost never of shrubbery. Which is all the difference between a nursery and a garden picture, in the last analysis. For shrubs individually have not the pictorial quality; indeed I think we may very safely say that neither has anything else that goes to the making of a garden, alone and by itself. Solitary growths may become splendid and perfect specimens, but their very perfection destroys their picturesqueness. So I am going to ask you to banish completely the thought of the lilac bush or the snowball in the midst of the door-

yard and to acquire a new conception of this kind of garden material. Not that we are to make an end of these fine old-timers themselves by any means; but we must learn more about their kind than we possibly can while they as individuals occupy the mental foreground, obscuring all else.

In the first place there are several important requirements in the garden scheme which shrubbery alone can meet. Screens are needed, sometimes to obscure something which lies beyond the boundaries, sometimes for the seclusion of the place from uninvited inspection from without, and again for the hiding of utility features in one part from the more elegant portions. No individual shrub, however, will provide an effectual screen—for to be effectual a screen must conceal the thing which it is meant to hide so completely that no suspicion of its presence will arise as one looks in its direction. The screen that falls short of fulfilling this requirement is worse than a failure; it is an aggravation, permitting as it does a suspicion of the thing hidden and rousing curiosity accordingly.

Apart from its function of screen making, shrubbery provides one of the best flowering mediums that the garden may enjoy—and the hard pressed busy gardener as well. For with a

proper selection of shrubs, uninterrupted bloom throughout the summer is practically secured, with no further effort than the initial planting. Let it not be understood that I am quoting this in favor of shrubbery because other garden material is too much trouble to care for, under the usual circumstances of the all-the-year home. I am not at all in sympathy with that attitude, as I think I have already made plain; but there are many times legitimate reasons for the gardener's inability to spend much time in his garden. It is this situation which is met by the things requiring little care, making a garden and flowers possible where otherwise all would be barren.

Obviously if flowers throughout six months in summer are to be enjoyed, there must be at least six different kinds included in a shrubbery planting, as no kind can be expected to bloom over a month. As a matter of fact, no kind will bloom that long, and six shrubs would leave gaps, however carefully they were chosen. Eight or ten must be combined to get flowers from April to September; but as the best standard of planting requires many of a few kinds rather than a few each of many kinds, a group of ten shrubs each different from the other is not to be considered as a possibility for an in-

stant. We must either be satisfied with bloom somewhat interrupted, or we must greatly increase the number of individuals planted.

Which of these alternatives is chosen will of course depend on the amount of space which may be given over to shrubbery. A much larger group numerically may be used than was possible under the old way of planting where every shrub stood alone to give it room to grow into a specimen. For a distance between individuals of from two to three to four feet is ample, the latter being a maximum that is rarely used excepting along the edge of a border, or well in the background where large shrubs are furnishing the high growth. The general average throughout a shrubbery mass should be from two and a half to three feet.

It has been my experience that this close massing is more nearly an insurmountable obstacle to the average planter than any other of the innovations which gardening, treated as an art, require him to accept. Perpetually the objection is raised that the individuals in a mass will not do well; that they will be crowded and lose their shape; that they will not show. Not doing well I find usually includes the two latter in its broad generality and is not a reference to the shrub's health and nourishment.

However that may be, though, there is not the slightest chance of shrubs planted in this close company not doing exactly what they should in the matter of growth; of their not becoming just the shape which best suits their position and the artist-gardener's general purpose; and not showing to the fullest degree desirable and conformable with the scheme. Indeed, close company with its consequent mutual protection, is more in accord with Nature's scheme of things always than scattered planting.

In this connection it may be said that although the exigencies of the small place demand a great deal of restraint in the handling of the garden material, shrubbery is the one thing which simply cannot be subjected to formal treatment with satisfactory results, but must be used as Nature uses it. Certain shrubs lend themselves readily enough to the carrying out of more or less formal lines, to be sure; but shrubbery collectively, being in its very nature broadly pictorial, must be picturesquely disposed. The aim should always be to produce with it a mass—an impenetrable thicket of interlacing boughs; and as a matter of fact shrubbery rightly massed will be almost as effectual a screen in winter, with its branches bare, as in summer when they are in full leaf. Forget that

such a thing as a shrub exists; regard the individuals only as components of a blossom-strewn, colorful thicket. Look at them in the aggregate; never separately.

It is as a frame to the lawn spaces, hence as a boundary planting usually, that the use of shrubbery is satisfactorily possible on a small place. Heretofore I have not laid emphasis upon the point which must now be considered—a point involving one of the great principles which underlie all kinds of planting and garden arrangement, namely the open center and massed boundary—preferring to leave it until it was arrived at naturally in the development of the subject. In the disposal of shrubbery we first come face to face with it, in close quarters. Trees would have brought it if we had been considering places larger than the typical size to which we are restricted, although trees need not be quite as persistently shoved back to the lawn's outer limits as shrubs. Indeed they cannot be, if shade requirements are to be met, although actually their distribution about a dwelling to shade the ground from which heat reflects in summer, amounts really to a massed boundary of one part of the lawn, when considered from the lawn's center.

A tree or two or three may advance, however,

here and there, quite well out into the lawn, if the latter is spacious; but the shrubbery mass must not, except in so far as the undulations of its foreline, determined in plan when the design is made, carry it. This foreline or meeting line of shrubbery and lawn is most successful when its likeness to a rugged shore line is closest, the water being represented by the lawn while the shrubbery mass corresponds to the land. Inlets and promontories mark such a shore, and lawn "inlets" and shrub "promontories" are exactly the effect most desired and desirable in shrubbery planting. Study the conformation of such a bank; here and there are gentle slopes down to the water's edge. These will be successfully reproduced by low-growing and almost prostrate shrubs, planted in the fore of the taller varieties. Elsewhere, masses sometimes detach themselves and tumble down and out a bit from the parent headland. Here is the guide which shows how detached specimens may be planted at the prominent parts of the border—of which there should be only a very few, however.

It is distinctly apparent that this sort of thing cannot be carried out, except on a very limited scale, within the fifty by one hundred foot plot, if anything else is to find room in the garden. True, a very pleasing border of shrubbery is pos-



Such little trees as this dwarf apple are excellent material to incorporate with shrubbery mass anywhere in full sunlight, for both in flower and fruit they are ornamental



sible even in this space, if it is prized above all else; and even with such a border there may still be opportunity for some flowers. But great restraint must govern, obviously.

Generally speaking, too little thought is given to the dreariest time of the year in planning the garden. Summer is fair and gracious and pleasant enough without much coaxing or cajoling; but late autumn and winter, and raw, muddy, early spring are rude and gloomy and sullen and sulky more of the time than not—yet rarely a thought of conciliation is given to them. Winter garden effects are hardly worth calculating in the summer home, of course, but village homes generally are for all the year rather than for its garden season only. Therefore the winter season should be as definitely included in making plans as the summer; if need be I would advise sacrifice of the latter a little in order to favor the former.

Shrubbery furnishes the great medium for winter beauty in the garden, with perhaps a touch of evergreen planting to give depth. The shrubs which, by means of colored bark or persistent berries, contribute most to the winter phase of garden making, however, are not the shrubs which furnish the choicest blossoms in summer—or that furnish bloom over the longest

period. It is this to which I had reference in suggesting the sacrifice of summer in order to favor winter. A liberal use of what we may call the fine winter-effect shrubs will curtail the number of summer-effect varieties that may be planted, but I feel that the gain in winter more than compensates the small loss in summer. For other things will furnish summer flowers, even though the continuous shrub bloom is given over, but nothing save the certain shrubbery masses selected for it can give to winter the warmth and cheer which lie in these for the year-around home.

The rhododendron is probably the best known of all the broad-leaved evergreens—and almost the last one that should be used next, or near to, a building, I hasten to add. For of all the things comprising this great class it is the most essentially wild in every sense of the word. Not that any of them take enthusiastically to domestication—they have to be catered to meticulously—but at least they fit themselves into its setting harmoniously. But the rhododendron cannot, for ungainliness. It does not sulk and it blooms and grows; but it always seems to me like some great, wild, unlettered cow-puncher (which all cow-punchers I know are not!) booted and spurred and in full regalia,

trying his utmost to entertain and be entertained in a fashionable drawing-room. It is no derogation of either the man, the drawing-room, or its other occupants that his efforts are unsuccessful and that his growing self-consciousness makes them more rather than less so. Similarly with the rhododendron; no finer or more beautiful plant exists than it, in its proper environment—which is the half shade of open woods—but away from this environment its actual beauties are diminished, and what remain are so obscured by its awkwardness and obvious consciousness of being out of place, that they hardly count.

So as a first rule in the use of this particular shrub let us say that it shall never be placed against or even very close to a building, unless that building is situated actually in a wood and all the conditions around it are naturally wild or duplicate the wild completely. I do not deny that now and then there are to be found instances of its use in the midst of small conifers against a building where its awkwardness is not so in evidence; but these are rare, and not, moreover, permanent, since the conifers will crowd in against the shrub in time and need thinning, or the whole will need replanting.

Further, there are so many things better than

rhododendrons for use about a building, and there are so much better uses of the rhododendron, that there is no valid reason for this misuse of it. Leave it to its wild, sweet will; naturalize it under trees and you will find nothing in the world lovelier. Is it worth while to sacrifice its beauty when treated thus, to gratify the (mistaken) desire for it beside the door or against the house foundations, because it is evergreen? Decidedly it is not—for its beauty in the natural environment of woods is startling beyond everything else and one of the choicest dramatic elements available to the landscape architect.

By which you will gather that the small garden is not the place for it, no doubt; let me go further and say that nothing but the wilderness *is* the place for it. Where we can naturalize it in its beloved woods as we do any other wild flower in its favorite haunt, there let us use it in as great quantity as possible; or where we can mass it in rich banks and billows under the shade of great trees to form lovely glades in an estate park, let us do so; but not otherwise. For other situations we have other and better material, no more beautiful intrinsically to be sure, but more suitable.

Bear in mind invariably that the garden ideal

is not horticultural above all else. It considers instead the picture that is being created—and extraordinary specimens do not contribute to that harmony of *ensemble* which is the essential thing. So, however remarkable a shrub may be in bloom and other individual characteristics, in its garden aspect it must have the added quality of being a good mixer—unless it is to make one of a collection grown for the sole purpose of ascertaining how magnificent specimen plants may become, which is altogether another proposition.

There are ten distinct evergreen shrubs that are obtainable—that is, they are offered by nurseries—which I would recommend as suitable wherever an evergreen mass is desired. They are, in their alphabetical order, *Abelia* (bush arbutus), *Andromeda* (lily-of-the-valley shrub), certain *Azaleas*, *Calluna* (Scotch heather), certain *Cotoneasters*, *Daphne* (garland flower), *Evonymus*, certain *Ilex* (holly and inkberry), *Kalmia* (mountain laurel), and *Mahonia* (Oregon grape). To undertake a description of each here is not necessary, but of their handling in general I may say that they require to be dug in the nursery and shipped with a ball of earth held firmly about their roots, just as evergreen trees are dug. And they like a soil

in which forest leaves are decaying constantly, providing it with the acid that vegetable matter of this sort alone will furnish—which these plants all require.

The relative positions which these shrubs should occupy toward each other, and the distances between them, are the same as with deciduous material. The tallest are the *Ilex Mahonia*, and some *Cotoneasters*; the next are the laurel and *Andromeda* and the others are still lower, down to the almost prostrate growing *Cotoneaster microphylla*.

Of them finally it is perhaps well to say that they are expensive material; but if they are selected of a size to be really effective they will produce an effect as immediate as any other evergreen. Otherwise they will not produce a finished effect as soon as deciduous material, since they are of much slower growth. Moreover, while they are growing, it will not do to fill the blank spaces between or around them with other shrubs or even with lush growing annuals, for these will choke off light and air from them and retard their own progress almost altogether. These things considered, however, there is no reason why evergreen shrubs should not be as freely used in the small garden as in the large, and with delightful effect.

But this broad-leaved evergreen group, lovely though many of its members are, does not surpass in winter beauty, in my opinion, the vibrant warmth of the barberry's scarlet fruits, quivering the length of every branch, nor of its tangle of red-brown twigs; or the great cymes of the high-bush cranberry which nod aloft defying sleet and snow until spring brings forth the young leaves to crowd them out of their way; or the deep burgundy of the cornel branches laced against the snow; or the bright hips and glowing color of the wild-rose mass. The broad-leaved evergreens, too, such as rhododendron and laurel and andromeda, require certain soil conditions for successful growth, but the shrubs just named will grow anywhere practically, in any soil and situation.

Roses are shrubs, of course—but none of the hybrid double roses should ever find their way into the shrubbery. There are several lovely shrubbery roses available for such massing, either in groups made up of themselves alone, or mingled with a general planting; but these are never the double rose of the florist. At most they are only semidouble, usually they are single. The great roses of the rose garden—the hybrid teas and perpetuals and all the fancier's kind—are artificial products of cen-

turies of culture which have quite outgrown the common general garden and must always have a place to themselves. Note that these are never ornamented with the rich and brilliant berries or hips which make the wild rose and the other single roses such things of beauty and joy in winter. This is the penalty of doubling. The plant is rendered sterile and incapable of producing fruit.

Boxwood is another shrub growth that is in a class apart from all the rest. It is the one plant of this class that, unless used as a hedge, is preferably planted alone rather than in a group. We seem to have lost the knack of handling it effectively nowadays, however, and even the boxwood hedge is almost never seen. Its slow growth is probably in a large measure the reason for this; and it is of course an expensive species, compared to the general run of shrubs. But one well-placed specimen of boxwood should find a place in the garden, even though it comes as a very tiny bush in the beginning. For not another plant in the world has such an air about it as this exquisite old aristocrat—and it suits formal or informal schemes equally well, even as gentlefolks tactfully set things and people at their ease, wherever they may go.

TEN SHRUBS FOR ALL-SUMMER BLOOM WITH COLOR OF FLOWERS
AND HEIGHT AT MATURITY

APRIL

Forsythia	<i>Forsythia Fortunei</i>	Yellow	8 feet
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MAY

Flame azalea	<i>Azalea calendulacea</i>	Orange	6 "
Spirea	<i>Spiræa Van Houttei</i>	White	8 "
Lilac	<i>Syringa vulgaris</i>	White, lilac	12 "

JUNE

Weigelia	<i>Diervilla floribunda</i>	Crimson	6 "
Mock orange	<i>Philadelphus coronarius</i>	White	10 "

JULY

New Jersey tea	<i>Ceanothus americanus</i>	White	3 "
Butterfly bush	<i>Buddleia variabilis Veitchi</i>	Lilac	8 "

AUGUST

Giant elder	<i>Sambucus maxima pubescens</i>	White	10 "
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SEPTEMBER

Rose of Sharon	<i>Hibiscus Syriacus</i>	White, etc.	10 "
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The above bloom approximately in the months named, and hold their flowers usually long enough to leave no intermissions, hence this selection will give as nearly uninterrupted bloom all summer as it is possible to achieve.

TEN EVERGREEN SHRUBS

Winterberry*	<i>Ilex glabra</i>	White	8 feet
Laurel	<i>Kalmia latifolia</i>	Pink	8 "
Azalea	<i>Azalea indica alba</i>	White	8 "
Oregon grape*	<i>Mahonia aquifolium</i>	Yellow	6 "
Spindle tree	<i>Evonymus Japonicus</i>	Greenish	6 "
Fire thorn*	<i>Pyracantha coccinea Lalandi</i>	White	6 "
Andromeda	<i>Pieris floribunda</i>	White	4 "
Cotoneaster	<i>Cotoneaster Simonsi</i>	White	4 "
Lily-of-Valley shrub	<i>Leucothoe Catesbaei</i>	White	3 "
Scotch heather	<i>Calluna vulgaris</i>	Pink, white	2 "

Evergreen shrubs are not planted primarily for their bloom, which in some is inconspicuous. Those marked with an asterisk have highly decorative fruits, however, so their evergreen quality is not their only charm; and several have very lovely flowers as well.

TEN SHRUBS FOR SHADY PLACES

Cornelian cherry	<i>Cornus Mas</i>	Yellow	10 feet
Panicled dogwood	<i>Cornus paniculata</i>	White	8 "
Silky cornel	<i>Cornus Amomum</i>	White	8 "
Regel's privet	<i>Ligustrum Iboia Regelianum</i>	White	8 "
Hydrangea	<i>Hydrangea arborescens</i>	White	8 "
Sweet pepper-bush	<i>Clethra alnifolia</i>	White	8 "
Deutzia	<i>Deutzia scabra</i>	White	6 "
Snowberry	<i>Symphoricarpos racemosus</i>	Pink	6 "
Japanese barberry	<i>Berberis Thunbergii</i>	Yellow	4 "
St. John's-wort	<i>Hypericum densiflorum</i>	Yellow	4 "

TEN SHRUBS WITH ORNAMENTAL FRUITS

Turquoise berry	<i>Symplocos paniculata</i>	Blue berries	10-20 feet
Christmas berry	<i>Photinia villosa</i>	Scarlet	12 "
Buckthorn	<i>Rhamnus Frangula</i>	Red to black	12 "
Red chokeberry	<i>Aronia arbutifolia</i>	Red	12 "
Cornel	<i>Cornus Baileyi</i>	White	10 "
Spice bush	<i>Benzoin odoriferum</i>	Red	10 "
Burning bush	<i>Evonymus alatus</i>	Orange and red	8 "
Gray alder	<i>Ilex lœvigata</i>	Scarlet	8 "
Withe rod	<i>Viburnum cassinoides</i>		8 "
Barberry	<i>Berberis vulgaris purpurea</i>	Purple	6 "

“Through primrose tufts, in that sweet bower,
The periwinkle trailed its wreaths;
And 'tis my faith that every flower
Enjoys the air it breathes.”

—WORDSWORTH.

CHAPTER XIII

FLOWERS OF ALL CLIMES AND SEASONS

IT is, I know, a reversal of the order which the garden beginner's enthusiasm takes to wait until everything else has been disposed of before coming even to the consideration of flowers. But if I have succeeded at all in developing through these pages the garden idea, as I conceive it, you will appreciate by this time that the *garden* is the thing, and that all that goes to make up the garden is secondary—even the trees and shrubs and flowers. Of course there would be no garden without vegetation; but our custom has always been to work from the vegetation backward—a practice which never can give the harmoniously balanced and beautiful final result that the more logical method of

working up to the vegetation, from the bare ground, assures.

So the garden and house are designed as a unit, and all that enters into this design is considered and worked out before the plants are thought of. After all this is done, after the house and the garden are carefully and thoroughly built, then the place as a whole stands ready for furnishing, the indoors with its kind, the outdoors with its. Large pieces of furniture in the house, then the smaller, and then the purely decorative material; trees out of doors, next shrubs—and finally the flowers. Thus we come to them fully prepared to place and group them worthily, and to treat them as they deserve to be treated.

The times when they are so dealt with are all too few, unintentional though our sins of omission are; as a consequence, the effect of the flowers which we do grow is not one-hundredth what it might be. For we should have not only the beauty of the flowers themselves to delight us, but the beauty of the garden design—the garden scheme as a whole, picked out and quickened by them. They are, indeed, the garden craftsman's colorful gems, his inlays of rich enamel, his mosaic chips, to be incorporated into his design as these jewels and bits of

enamel or shell or what not are assembled under the hands of workers skilled in the crafts which employ them.

Everyone knows of course that there are, generally speaking, two kinds of flowering plants—those which live over from year to year, and those which must be raised every year from seed sown in the spring; or perennials and annuals, according to garden terminology. A third kind which escapes the attention of the beginner very often is the biennial, a plant which is raised from seed one spring, grows to maturity the first summer, lives through the winter, and blossoms and matures its seed the second summer, dying when fall comes—not of the cold but because its life cycle is over.

These lap-overs are an exasperating kind of plant to my mind, and if it were not that some of the loveliest of flowers are among them I think I should never admit them to my garden; for each year young plants must be raised and wintered over if next year is to have its quota of blossoms; yet the space in the garden occupied by the blossoming plants is not available until after the season is over, of course. So somewhere there must be a nursery for the young stock. Annuals on the contrary, brief though their span, require no coddling, but may

almost always be sown in the spring where they are to grow; and they blossom and take themselves out of the way with no confusion—which habit has its distinct advantages.

Annuals, biennials, and perennials each have their superior points, however, and each have their place in garden making. Only the plants which are already there when spring wakes the world are really worthy such a garden as each should be working for, however. Here and there a clump of the others may come in as the summer days lengthen and a bit of spare room shows itself; but let them be entertained as guests only, in the spare room; do not take them permanently into the family.

For the temporary flowers or annuals are only *temporary*; they grow rapidly and luxuriantly after they start, it is true, and blossom freely. But they are not there at all during the wonderful weeks that follow the March or April reveille—and a garden barren at this time is no garden! So plan for the hardy lasting plants, the crocus and daffodil, the iris and peony and phlox and day lily, tall hollyhocks and low columbines, blushing lupines, pale baneberry, and twinkling starwort. And banish the salvia, the geranium, the fearful coleus—this not a flower but favored as flowers are

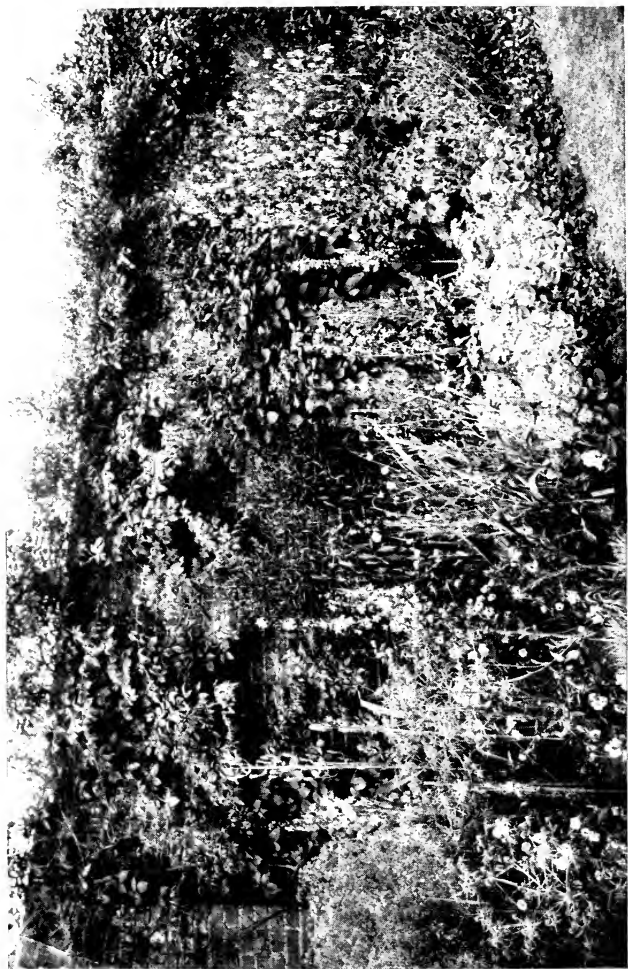
and more strident than any—the canna and the elephant's ear. The presence of these never adorned anything; their manners are too shocking.

Which brings me to the matter of flower beds, these being usually the medium of display for overbearing flowers of this type. I am glad that the two are associated; glad that no one has ever dreamed of doing such a thing as plant a round bed of hollyhocks, or of any other fine old garden aristocrat, in the midst of a lawn. For of all gardening offenses the flower bed is surely the worst—the type of deadly and unpardonable sin—the murderer of harmony and beauty and repose.

Such strong condemnation seems unnecessarily severe, perhaps you say; but when the outrage which design suffers by having a detached, meaningless unit dropped into the midst of a fine and open space is added to the outrage inflicted upon an expanse of lawn by cutting its heart away to make room for flaunting garden courtesans, and all this is multiplied, who shall say how often, by our instinct for imitation led by the fear of being original, strong language is demanded. Better no flowers at all than a flower bed; there is at least no affront in the blankness of the unadorned—and it is peaceable

if nothing more. The places for flowers in a garden are very much like the place for gems in a fine piece of jewelry. All the design leads up to them in a way—and yet no part is neglected for them, or because they are expected to focus attention. This is exactly the ideal to adopt in placing flowers in the garden design. With it in mind, serious mistakes will never occur.

Many things will influence the selection of varieties and colors after the locations are determined upon, and not until these are determined can definite choice be made. Of course it will be possible to make provision usually for any special thing which it is desired to have, but the general conditions of the garden as to soil and exposure must be met by using plants which prefer these conditions. This is a phase of gardening that is perhaps the hardest for early enthusiasm to accept patiently, for it does seem that there should be some way to make anything grow that one very much wishes to have. And there usually is, of course, but it is often a very laborious way and one requiring knowledge and skill to follow. So the beginner will be much wiser to forswear the things his heart is set upon, if these are not naturally adapted to his garden conditions, until such time at least as he is no longer a beginner and his



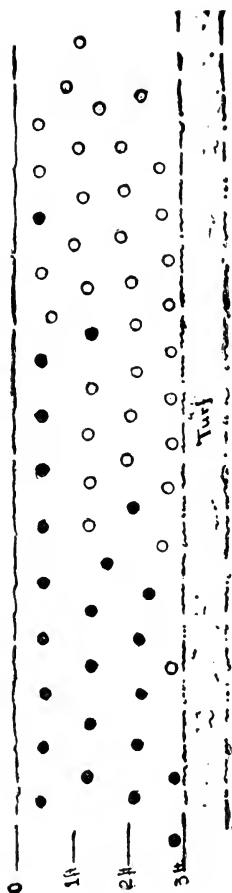
No floral arrangement that it is possible to devise will ever yield more of pure loveliness than the mixed border, backed preferably by a wall though a fence or a hedge will serve



garden is well furnished in the main with things that will grow easily therein. Then, if he still longs for that which Nature denies, it will be time to experiment, and the whole place need not suffer in appearance as a consequence.

But there are a great many more kinds of flowers than any garden can possibly hold, and much that is lovely must be excluded. Indeed, more will have to stay out than may come in, for flower masses—that is, masses of one kind of flower—are as essential to good effect as mass generally. A border along a wall or walk may be mixed—usually should be in fact, in order to secure bloom through all the season—but of each species composing the mixture anywhere from three to a dozen or twenty specimens must be planted, depending of course on the size and habit of the individual.

Just here let me call special attention to the little planting diagram, which illustrates a principle which should be carefully observed in planting any mixed group or border. Where a clump of one species or variety meets a clump of another, a sharp line of demarkation must never be allowed. Instead, an effect of each tapering off into the other, secured by scattering together the two, not regularly at all but as they would be likely to mingle if self-sown in the



This section from a flower border three feet wide shows one kind of plant represented by an open ring and the other by a black spot.

Diagram showing intermingling where groups meet.

wild, should be the aim. Observe any field of daisies and buttercups, of clover and daisies, or of any common wild growth, and you will find a perfect model. Masses of each will stand by themselves, crowded in places, thin elsewhere, and finally giving way gradually to the other, with here and there a fugitive specimen venturing quite beyond its kind into the other's preserve. Follow this idea generally in the border, and indeed in all group planting whether of flowers, shrubs, or trees. A single specimen, such as peony or boltonia, may stand alone and independent now and then of course, but ordinarily everything should be massed—and the masses should meet graciously.

Color seems to be a stumbling block sometimes, whatever way it is considered. But this is because it is over-considered or not really considered at all, I fancy. An idea that because it is color in flowers it will take care of itself and because Nature seems to use it carelessly one may do the same, is too prevalent for one thing, while a lack of boldness is characteristic of another school of specialists. Colors that are inharmonious are inharmonious anywhere and in any medium; and Nature only *seems* to use color carelessly. She is a consummate artist be it remembered, and can do with dash and im-

punity things which we must beware of attempting until we have learned enough of her technique to have acquired facility.

Certain plants are notorious offenders in the matter of color without doubt, and furnish combinations which should be avoided like the plague. Preëminent in this class stand the mixtures of zinnias that are usually seen; and phlox is a notorious offender with its salmon and magenta shades. Yet magenta is a wonderful color—properly placed. Elimination of any color therefore is only the negative side of color possibility, and its positive side is capable of most delightful development.

As a general guide to the use of colors, it is well to fix the three primary colors in mind and the combinations which form the secondary colors. The primary colors (old style) are pure yellow, pure red, and pure blue, as of course everyone knows. These are primary because they may not be further dissected into components, each standing by itself as a basic unit. The secondary colors are scarlet, purple, and green, and these are each made up of two of the primary or basic colors, *and no more*, theoretically at least—yellow and red forming scarlet, red and blue forming purple, and blue and yellow forming green. An actually pure color is

almost unknown as a matter of fact and probably is unknown in Nature. For pure colors are not pleasant to the eye; their brilliancy needs tempering to make them endurable.

Ordinarily two primary colors should not be used in groups that immediately adjoin, but a progression from one primary color to another by way of their secondary color, is always possible and very effective if well carried out. Pure blue may progress to pure yellow by means of green—foliage of course takes care of this—and pure blue to pure red by means of purple. This last you see allows space for the shades of magenta; but the plants to furnish these must be carefully selected, since in some the color is muddy and ugly.

Such a progression should not be too abrupt, but should move in several steps when possible, from primary to secondary and thence to the succeeding primary. And then, supplementing this as a general guide, is the proportioned use of complementary colors. These are the pair of colors made up of any primary color in combination with the secondary, of which it is *not* a part—as red and green, yellow and purple, blue and scarlet. Primary and secondary are said to be complementary to each other because if united they would—theoretically—compose

pure light, which we most nearly represent by white. Of course pigments themselves do not actually produce white, because they are not pure vibrations of light, but that is another matter and does not concern us when we are dealing with a thing as tangible as the colors of flowers and vegetation generally.

The three sets of complementary colors vary in the degree of harmony between them. To meet this variation they must be combined unequally, the proportion varying according to the combination. Yellow and purple offer less difficulty than the other two and may be used in the proportion of about one part of either to two parts of the other. Flowers of certain irises give examples of this combination, also pansies.

Red and green come next, but with this combination we are not called upon to deal, Nature taking care of green very much better than we could if it were left to us. Note, however, just by way of illustrating the point of proportion, that the red or the green is always very much in the ascendant when this combination occurs. Red berries among green foliage show probably not more than a one-to-ten proportion of red to green, while scarlet flowers generally either reverse this by concealing a large amount of their

foliage, or do not reduce it at most below a one part red to seven or eight parts green.

Blue and scarlet are the really difficult members of the trinity to handle, for some mysterious reason. It is a combination which may be avoided of course but we are not seeking to get around these things. Therefore we must find the way to make it tolerable. This lies in keeping its proportions even farther apart than the red and green combination requires. Indeed, either the blue or the scarlet must be practically *nil* save on close inspection.

White flowers may of course break up the most unfriendly elements, but I do not fancy a resort to this means as greatly as some. For white, of course, can only separate, never unite. Progression around the circle is the only path to real union, never doubt that; and a garden whose color scheme is based upon this pilgrimage is a garden of the greatest distinction, quietly and richly beautiful and filled with wonderful shades and tones. Whereas the common reliance upon white to break up inharmony results in a brusque, disjointed, and sometimes most unsatisfactory effect. Moreover, white is itself too beautiful to be relegated to the thankless role of buffer between warring factions!

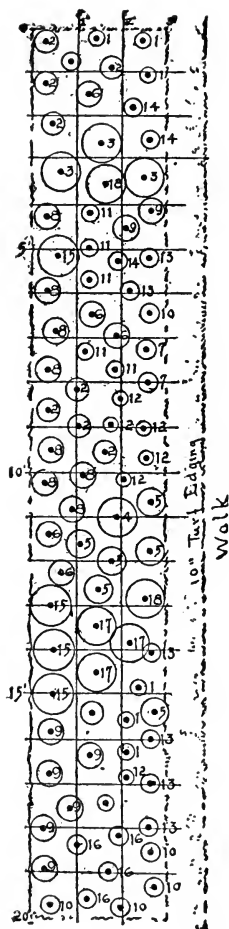
There is one other way out of color difficul-

ties which I must not neglect to mention—a way that makes many of the difficulties only apprehended after all, and never actually met. This is the different time of bloom of the plants used. Colors that clash are seldom or never seen in a natural tangle of wild flowers for the simple reason that the flowers which would furnish unhappy combinations of color do not blossom at the same time. Take this into consideration in selecting and ordering.

So color really need not be perplexing—even with all its nice distinctions. Do they seem too nice? And does the garden planting seem an appalling task with so much to be kept in mind? Actually it is much simpler worked out in the way suggested than any haphazard thrusting in here and there of this and that can ever be; for nothing is harder work or more confusing than trying to plant flowers in this way. And the distinctions, far from being overly nice, are perfectly obvious when the idea begins to take shape—and color—outdoors in the garden.

The diagram appended, but more especially the plant lists, may furnish first aid to the beginner of a rather more direct nature than it is possible to offer in any other section of selective garden work. To annuals comparatively little

space has been given; but raising annual flowers is hardly gardening in the true sense—in the lasting sense which we are considering here. And as the tendency is toward these plants and away from the permanent ones anyway, I do not feel that their merits need dilating upon so much as their disadvantages.



PLANTING PLAN FOR TWENTY FEET OF PERENNIAL BORDER

PLANTING KEY FOR A SUNNY LOCATION

1. Daffodil.....*Narcissus pseudo-Narcissus*
2. Iris.....*Iris pallida speciosa.*
3. Peony.....*Pæonia officinalis rosea.*
4. Peony (white).....*Pæonia officinalis alba.*
5. Lupine.....*Lupinus polyphyllus Moerheimi.*
6. Phlox.....*Phlox, "Miss Lingard."*
7. Columbine.....*Aquilegia Canadensis.*
8. Larkspur.....*Delphinium.*
9. Phlox.....*Phlox.*
10. Day lily.....*Hemerocallis flava.*
11. Lily.....*Lilium speciosum rubrum.*
12. Veronica.....*Veronica longifolia subsessilis*
13. Plantain lily.....*Funkia subcordata.*
14. Bell flower.....*Campanula pyramidalis.*
15. Boltonia.....*Boltonia latisquama.*
16. Snake root.....*Cimicifuga simplex.*
17. Hardy aster.....*Aster Novæ Angliæ.*
18. Hardy chrysanthemum.....*Chrysanthemum (pompon).*

FOR A SHADY LOCATION

1. Daffodil.....*Narcissus pseudo-Narcissus.*
2. Wake robin.....*Trillium grandiflorum.*
3. Saxifrage.....*Saxafraga cordifolia.*
4. Wind flower.....*Anemone sylvestris.*
5. False Solomon's seal.....*Smilacina racemosa.*
6. Phlox.....*Phlox divaricata alba grandiflora.*
7. Baneberry.....*Actæa spicata.*
8. Cardinal flower.....*Lobelia cardinalis.*
9. Meadow sweet.....*Spiræa palmata elegans.*
10. Day lily.....*Hemerocallis flava.*
11. Toad lily.....*Trycirtus hirta.*
12. Monkshood.....*Aconitum napellus.*
13. Plantain lily.....*Funkia subcordata.*
14. Blue bells.....*Mertensia Virginica.*
15. Indian pink.....*Spigelia Marilandica.*
16. Snake root.....*Cimicifuga simplex.*
17. Native aster.....*Aster corymbosus.*
18. Globe flower.....*Trollius Asiaticus flore croceo.*

LIST OF FLOWERS FOR A COLOR PROGRESSION

Bird's eye	<i>Adonis vernalis</i>	Spring	12	ins.	Yellow
Blanket flower	<i>Gaillardia grandiflora</i>	Summer	30	"	
Chrysanthemum	<i>Chrysanthemum</i> (pompon)	Autumn	30	"	to
Tickseed	<i>Coreopsis lanceolata</i>	Summer	24	"	
Beard tongue	<i>Penstemon Torreyi</i>	Summer	4	feet	Scarlet
Cardinal flower	<i>Lobelia cardinalis</i>	Summer	3	"	
Phlox	<i>Phlox</i> "Coquelicot"	Summer	30	ins.	to
Phlox	<i>Phlox</i> "Etna"	Summer	30	"	
Aster	<i>Aster alpinus</i>	Summer	5	feet	Red
Astilbe	<i>Astilbe Davidii</i>	Summer	4½	"	
Poppy	<i>Papaver orientale</i>	Summer	30	ins.	to
Windflower	<i>Anemone Japonica</i>	Autumn	2	feet	
Aster	<i>Aster Novæ Angliæ</i>	Autumn	4½	"	Purple
Bell flower	<i>Campanula persicifolia</i>	Summer	2	"	
Gas plant	<i>Dictamnus fraxinella</i>	Summer	30	ins.	to
Larkspur	<i>Delphinium</i> variety	Summer	4½	feet	
Bugle	<i>Ajuga Genevensis</i>	Spring	8	ins.	Blue
Iris	<i>Iris</i>	Summer	18	"	
Lupine	<i>Lupinus polyphyllus</i>	Summer	4½	feet	to
Speedwell	<i>Veronica longifolia</i>	Autumn	2	"	
Day lily	<i>Hemerocallis flava</i>	Summer	3	feet	Yellow
Foxglove	<i>Digitalis lanata</i>	Summer	3	"	

The transition through green is, of course, accomplished by foliage.

TWELVE PLANTS FOR A PINK GARDEN

In their order of flowering

Spring beauty	<i>Claytonia Virginica</i>	Trailing	April, May
Iris	<i>Iris Britannicus</i>	2-3 feet	May, June
Peony	<i>Pæonia officinalis rosea</i>	2-3 "	May, June
Mullein pink	<i>Lychnis coronaria</i>	2 feet	June, July
Sweet rocket	<i>Hesperis matronalis</i>	2 "	June, July
Catchfly	<i>Silene Shasta</i>	5 ins.	June, Sept.
Hollyhock	<i>Althea rosea</i>	5-6 feet	July, Aug.
Phlox	<i>Phlox pan.</i> , <i>Artaxis</i>	2-3 "	July, Aug.
Rose mallow	<i>Hibiscus Moscheutos</i>	5-6 "	Aug., Sept.
Stonecrop	<i>Sedum stoloniferum</i>	6 ins.	Aug., Sept.
Chrysanthemum	<i>Chrysanthemum</i>	2-3 feet	Sept., Oct.

TWELVE PLANTS FOR A BLUE GARDEN

In their order of flowering

Blue bell	<i>Mertensia Sibirica</i>	1½ feet	April, May
Bugle	<i>Ajuga Genevensis</i>	8 ins.	May
Iris	Blue varieties	2-3 feet	May, June

Speedwell	<i>Veronica gentianoides</i>	1½ "	May, June
Italian Alkanet	<i>Anchusa Italica</i>	3-4 "	June on
Larkspur	<i>Delphinium belladonna</i>	2 "	June on
Giant bellflower	<i>Platycodon grandiflorum</i>	2 "	June, Oct.
Bellflower	<i>Campanula calycanthemata</i>	4-5 "	July, Aug.
Stokes's aster	<i>Stokesia cyanea</i>	2 "	July, Oct.
Bush clematis	<i>Clematis Davidiana</i>	3 "	August
Speedwell	<i>Veronica longifolia</i>	2 "	August
Aster	<i>Aster laevis</i>	3-4 "	Sept., Oct.

TWELVE BEST ANNUALS FOR QUICK EFFECTS

Floss flower	<i>Ageratum</i>	Blue, white	6 inches
Madwort	<i>Alyssum</i>	White	6 "
Annual phlox	<i>Phlox Drummondii</i>	White, pink, etc.	15 "
Annual coreopsis	<i>Calliopsis</i>	Yellow, crimson, brown	15 "
Snapdragons	<i>Antirrhinum</i>	White, etc.	24 "
Annual asters	<i>Asters</i>	Various	Various
Carnations	Marguerite type	Various	18 inches
Sweet sultan	<i>Centaurea imperialis</i>	Various	3-4 feet
Chrysanthemum	Garden type	White, yellow, etc.	2 "
Marigold	<i>Tagetes</i> varieties	Yellows	2 "
Annual larkspur	<i>Delphinium ajacis</i>	White, pink, lilac	2½-3 feet
Stocks	<i>Matthiola</i> varieties	Various	1-2 "

TWELVE EFFECTIVE PERENNIAL COMBINATIONS

<i>Delphinium belladonna</i>	Clear blue	6 feet
<i>Campanula Medium, rosea</i>	Pink	3 feet
<i>Hemerocallis flava</i>	Lemon yellow	30 inches
<i>Phlox, "Miss Lingard"</i>	Pure white	2 feet
<i>Lupinus polyphyllus</i>	Blue	3 "
<i>Heuchera sanguinea</i>	Coral pink	2 "
<i>Polemonium cœruleum</i>	Bluish purple	2 "
<i>Papaver nudicaule</i>	Yellow	1 foot
<i>Liatris pycnostachia</i>	Rose purple	5 feet
<i>Asclepias tuberosa</i>	Orange	30 inches
<i>Digitalis grandiflora</i>	Straw yellow	3-4 feet
<i>Lychnis Chalcedonica</i>	Orange-scarlet	2-3 "
<i>Physostegia Virginica</i>	Pink	4-6 "
<i>Scabiosa Caucasica</i>	Lavender	2 "

<i>Salvia Pitcheri</i>	Gentian blue	4 "
<i>Polygonum Compactum</i>	White	18 inches
<i>Penstemon barbatus Torreyi</i>	Scarlet	4 feet
<i>Hypericum Moserianum</i>	Deep yellow	2 "
<i>Lythrum roseum superbum</i>	Rose pink	3-4 feet
<i>Stokesia cyanea alba</i>	White	18 inches
<i>Veronica longifolia subsessilis</i>	Deep blue	3 feet
<i>Polygonum compactum</i>	White	15 inches

Phlox, "Frederick Passy," "la Vague," "Eclaireur," and "Champs Elysee," furnishing a color progression from palest mauve to deep rose-violet.

“Iram, indeed, is gone with all its Rose,
And Jamshyd’s Sev’n-ring’d Cup where no one knows;
But still the Vine her ancient Ruby yields,
And still a Garden by the water blows.”
—*Rubaiyat* of OMAR KHAYYAM.

CHAPTER XIV

VINES, DECORATIVE AND USEFUL

VINES more quickly than anything else unite a house with the ground, hence they are the first things which may and should be planted, rather than the last, although the latter has been more generally the custom. They give finish to the most barren place in a single summer, and, rightly handled, afford an amount of shade equal to years of growth of trees—besides furnishing very beautiful bloom if the purely ornamental kinds are used, or an abundance of fruit if the grape is included. Moreover, all this is done with the very least use of ground space; where there is room for nothing at all literally, in the way of a garden, there is still room for a vine, or for several.

With vines as with all other garden material I would suggest the useful always in goodly proportion; yet there are a few that are purely ornamental which it seems quite impossible, and actually is unnecessary, to do without. One of these is the honeysuckle—*Lonicera Halleana*—with its ravishing odor that saturates the nights and days during its period of bloom, bathing the senses in delight. Another is the wistaria—*Wistaria Chinensis*—that for pure beauty is unrivaled by any other climbing plant and by few indeed of any kind. And still another, for shade and sturdy, clean thrift, is the kudzu vine—*Pueraria Thunbergiana*—a marvel of rapid growth and of loose and graceful yet overlapping green, that throws a perfect shade without being too dense and heavy in effect. Finally there is the Boston ivy—*Ampelopsis tricuspidata* or *A. Veitchi*—which is and always will be without a rival for covering walls, when a close and somewhat formal growth is desired. For this does no injury to the walls, its flat little disk-fingers simply sticking tight by some process peculiar to themselves and never carrying it under nor around shingles or boards or bricks. I do not find, either, that this vine harbors dampness if planted on open walls as it likes to be, where there is a sweep of wind and sun.

Which brings us to the question of vine location in general—an important question if the prejudice which many cherish against the use of vines at all upon a dwelling is to be met.

We must first realize that there are two kinds of vines, broadly speaking; the tight, close climbers like Boston ivy and the true ivies—*Hedera*—and the loose, open climbers like wistaria and honeysuckle. This difference is due to the difference in climbing habit, the close climbers being those which attach themselves to the surface up which they ascend and literally grasp it hard and fast, while the loose climbers twine themselves around anything which they may find to embrace and work their way up more negligently. The former do not of course need anything but a wall to help them rise, while the latter are utterly dependent upon some medium of ascent such as a trellis—or a wire or rope.

The kind of vine, according to this division between them, will have much to do with fixing its proper use. Obviously the loose and consequently more airy growth which allows free circulation beneath it would seem to be better suited to wooden buildings than the compact and tight growing disk climbers. But both kinds should be kept out of the angles of all

buildings whether they are made of wood or masonry, for vines not only suffer themselves in such recessed locations, but they are distinctly a detraction from the appearance of a place when so situated. For neither corners nor the apex of angles should ever be obscured by planting; they must be left clean and open if the building is to retain character and strength.

Either flat wall composing such an angle may be trellised for the support of one of the open climbers, however, with good effect, if the vine is planted well out on the wall and not at or near the inner corner. And trellises themselves are very charming ornamental features on the outside of a building, when well designed and executed. An especially picturesque effect results from the use of them horizontally above the windows of the lower floor. So placed, they afford opportunity for very much extended growth to every vine on them; and indeed two or three plants, carried by means of an upright trellis to these transverse supports, will creep along and do the work of twice or thrice their number in a tracery of airy branches against the background of the house.

Honeysuckle is particularly suited to this method of trellising, for its lower growth is usually light anyway, while its top growth is

correspondingly heavy. Consequently it does best when it is encouraged to go on at the tips and given some help to this end. The shower of fragrance which it constantly pours forth from an elevated position, too, makes this my favorite way of using it—for it fills upstairs as well as down, indoors as well as out, with its sweetness.

To share this lattice with the honeysuckle plant a clematis or two—not so near it that they intermingle, but near enough that there may be bloom and sweetness over a longer period. The Japanese variety that is so universally grown—*Clematis paniculata*—flings abroad its foaming mass of white bloom in August, after the honeysuckle has finished, save for here and there a fugitive clump of blossoms. It also is not only deficient in lower growth, but weak as well; hence its ascending trellis must be very strong and immovable that it may not whip about and be injured at the ground.

The vines which are planted to give shade to a porch or any portion of a house fulfill their purpose infinitely better when carried up to a projecting support over which they may clamber than when simply grown to form an upright wall or screen of vegetation. This old way of closing in with them as if they were curtains

shuts out the light as well as the sun, excludes much air, and of course cuts off any view which there may be. A light trellis at the cornice line, projecting two or three feet and suspended from chains from above or supported on brackets, leaves, on the contrary, unobstructed way for light and breeze and outlook and gives a charming open, woodsy effect of green and leafy roof, in place of the shut-in restraint of the flat screen. Wistaria trained to such a support is delightful, for its great racemes of bloom then hang pendulous overhead. Flat-leaved vines also, such as the kudzu vine or the grape, lend themselves well to clothing this kind of extended framework; but clematis and honeysuckle and lighter vines generally will not be so satisfactory, although the common woodbine or Virginia creeper—*Ampelopsis quinquefolia*—is fairly good.

Where this outstanding support is not possible, or not fancied, and the vines may therefore only travel up before a porch, confine their growth to the columns and leave the open spaces between these *open*—unless the planting is for the express purpose of forming a screen. For vines should be treated as the drapery of the plant world and caught back so that their supporting column or whatever it may be is

fully realized. Never let them obscure entirely the object which they depend upon, even though that may be only a little common arbor ever so crudely built. Here and there a line to show structural definiteness should always remain uncovered; if it does not, a shapeless lump is all that in time will be discernible—a kind of elephantine monstrosity without grace or beauty. When any garden retreat gets thus deeply buried, it ceases to be a pleasant place to loiter, which is of course the very worst thing that can happen to it and to the garden wherein it stands. For usableness is above all else the one attribute which must never be lost.

Flowering vines generally are more advantageously placed away from the dwelling than against it, both for the full enjoyment of them from its windows and porches, and for the better care of the vines themselves, especially those of certain species. Honeysuckle and wistaria are exceptions to this, but of these only the latter is at all showy in flower. Climbing roses especially are not good subjects for house planting because practically all roses, to be kept in prime condition, must be sprayed frequently. Of course spray cannot reach both sides of a plant which is exposed only on one; and equally of course spray applied to the rose against the

house will surely be applied to the house also—and trickle down in ugly streaks and stain it. Limit the planting against the house therefore to the Boston ivy, wistaria, honeysuckle, and clematis, with a kudzu vine if there is a large space to be covered.

All of these may be used, or only one or two; whatever the number of plants required, however, do not go above these five named species unless a screen is wanted instead of shade, as may sometimes be the case. One of the best vines for use under these circumstances is the five-fingered akebi—*Akebia quinata*. Its merit lies in its particularly clean and rather evenly overlapping loose and graceful leaves, which form an impenetrable barrier to the vision that may seek to penetrate from without, making at the same time a grateful and attractive object to look upon—which a screen should always be.

Boston ivy I should always plant to clothe foundations and broad, unbroken spaces on a building. Keep it within bounds, however, and never let it round off corners nor hide window frames, columns, or other structural features. Indeed this is the one vine which should never approach a supporting member, for it clothes everything it grows upon so completely that the shape of it is quite concealed and becomes ac-

cordingly clumsy. Only the loose and airy growth that twines should be planted where supports of any kind are involved. This leaves their form fully revealed always, even though festooned and garlanded.

For planting about a summerhouse almost any favorite may be used. Fragrance there certainly should be, which either honeysuckle or clematis or both may furnish; then there is the showy trumpet creeper—*Tecoma radicans*—which ought to be given space somewhere. Nowhere is it better than on an arbor, for its vivid flowers are seen to the greatest advantage amidst a mass of green such as the tangle about such a structure affords. Here, too, there should be at least one rose; add to this the crimson-glory vine—*Vitis Coignetia*—for its beautiful foliage and coloring, and the combination will be delightful at all times of the summer and fall.

Arbors and pergolas are the home of the grape, and so on these there is no reason nor excuse for not combining utility and beauty. No other foliage has greater claim to regard than the leaf of the grape, no bloom is more deliciously fragrant, nor is there anything more beautiful than the clusters of fruit as they ripen, depending overhead. So whatever the style of an arbor may be, grapes may and should be

used on it, likewise on the arbor's Italian cousin—or brother—the pergola. Nothing else is truly suitable and appropriate.

Of annual vines there is only this to say; the place which gives space to them is sacrificing permanent beauty to very little gain in even present effects. For good hardy vines, planted in the spring or fall, will grow almost as much in their first summer as any annual. Forty to fifty feet in a single season is the average growth of the kudzu vine, with a capacity for surface covering that is immense, each long extending branch sending out side shoots and spreading to an unbelievable degree. And the other hardy vines which are useful for shade or screen are none of them slow growing. So there is nothing gained by introducing the annuals, save where they will not conflict with, or hinder, the perennial growth.

The real gain in time and effect comes through getting vines set out the instant building operations are over. Indeed they need not be over altogether; all that is necessary to admit vine planting is a cleaned up base line about the dwelling—and sufficient protection to the vines after they are in the ground to keep them from being trampled. Stakes driven around them will do this; and lumber may be lying about and work-



To use such a vine as the grape in this unaffected relation with the house is anywhere possible and will everywhere create the subtle but eloquent charm of home

men may come and go without doing a bit of harm, or hindering the establishment of vines thus forehandedly started, in the least. Given a chance thus to get to work just as soon as the ground is available for them, it is astonishing to see what they will accomplish by the time the place generally is graded and finished and ready for the rest of the planting. And not only the dwelling, but every building large or small may have its allowance of these widely useful plants. They are the one kind of growth that no place can do without, whatever its magnitude, and that every place may enjoy, however tiny it be.

“Begin the art of finding peace,
Beloved: it is art, no less.
Sometimes we find it hid beneath
The orchards in their springtime dress;
Sometimes one finds it in oak woods,
Sometimes in dazzling mountain-snows;
In books, sometimes. But pray begin
By finding it within a rose.”
—*With a Rose, to Brunhilde* —VACHEL LINDSAY.

CHAPTER XV

ROSES AND THEIR SPECIAL CULTURE

OF all things the rose is the most adaptable, so whatever the style or the size of a garden there are roses suitable for it—roses that are shrubs, others that are climbing and will grow where there is room for nothing at all, and still others that require as exclusive possession of their particular situation as the haughtiest vegetable. Which is not the far-fetched simile that it may appear, since I know of nothing that is more exacting than almost any vegetable at all! Do we not give them free rein and cater to all their little fads as if they were royalties—as indeed they are?

And so are some roses. But not all, happily. Whatever the size of a garden therefore I repeat, and wherever it may be, roses of one kind or another are to be anticipated and planned for and prepared for. Hence a knowledge of the rose in its variously embodied forms is desirable if not essential. I am therefore going to begin at the beginning—not of the rose's history, for that is too far back in the dim past, but at the beginning of the knowledge and understanding of roses as we have them to-day available for gardens.

This beginning has to do with the classes of roses; and when these classes are understood many of the questions that puzzle the casual observer of the flower's peculiarities—fancied—will be answered. There are, in the first place, roses from practically every part of the northern hemisphere, “from the mountains of Mexico to Hudson's Bay, from the coast of Barbary to Sweden, in Lapland and Siberia, from Spain to the Indies, China and Kamschatka.” Half the species have been found in Asia and of these a little more than half are natives of Russian dominions and the country adjoining; one comes from Persia, fifteen come from China and two of these also are found in northern India, together with four others found only there.

The parents, grandparents, great-grandparents and so on of our present-day garden roses are not all of these, by any means; and yet when one attempts to follow the geneological lines of almost any individual, or even class, back to their inception, it almost appears that they must be! For rose enthusiasts from away back of the days of the Greeks and Romans have been at work raising roses and intermingling species, until it is practically impossible, even for the most careful and patient botanist, to sort out which from other. So it all resolves into familiarizing oneself with about half a dozen present-day classes—unless further study of the subject is made just for the fun of knowing.

These classes are the Hybrid Perpetual, the Tea, the Hybrid Tea, the Rugosa, and the Wichuraiana. There may also be a speaking acquaintance with the Multiflora and the Noisette, but this need not be worried about in the beginning. Indeed these classifications may be lumped off in two general sections, according to natural habit, and one labeled summer flowering and the other summer-and-autumn flowering. Yet it is not enough to adhere to these two divisions; for in buying plants and tending them and indeed in handling them at all, it is really necessary to know with a fair degree of exacti-

tude what their family tradition and inheritance is.

The first mentioned—the Hybrid Perpetual group—boasts an almost endless number of hybrids, derived from crossings and recrossings and intercrossings of various hardy roses, and very beautiful indeed are the most of them; but to the novice in rose culture I always feel it best to call attention to just one thing characteristic of this class—namely, that it is *not* perpetual in the sense of blooming continuously. Usually the significance of the name is supposed to be something of this sort, whereas it probably refers to the hardiness of the plants, which are truly perpetual or constant, as all hardy plants are, regardless of the severity of a winter.

Do not therefore buy Hybrid Perpetuals, or H. P. roses as they are commonly termed, under the impression that they will be perpetually in bloom. A few in the class are distinctly more abundant bloomers than the class as a whole; and some blossom fugitively a second time, after an interval of rest following their bloom at the usual season of rose flower, generally in June. But very few indeed bloom throughout the season. All are perfectly hardy however, and grow in any climate without protection. Hence they

are highly desirable and never to be omitted from the garden.

The Tea roses are a group derived from the China or Bengal rose, delicate in habit of growth and actually blooming every month all through the summer. In passing I may say that the distinct fragrance of tea which characterizes them appeals to the imagination, since they are from the same parts of the world that furnish the fragrant brew. And this will help the unfamiliar student to remember where they come from. For the hint of that fragrance, not infrequently combined with what we regard as the true rose odor, spells Tea ancestry in any rose, anywhere; which is something to be regarded with interest, since Tea ancestry may insure the persistent blooming that distinguishes the pure Tea rose.

Which brings us to the roses *par excellence* of to-day—the Hybrid Tea or, reduced to common speech, the H. T. roses, a great class of really glorious quality, produced by crossing roses in the Hybrid Perpetual group with roses in the Tea group, to the everlasting improvement of each. That is, the hardier blood of the Hybrid Perpetuals stiffens up the Teas, as it were, and gives the offspring the endurance necessary to make them hardy, while the ever-blooming qual-

ity of the Tea rose contributes to the Hybrid Tea this tendency to flower all summer through; and so the result is a hardy or very nearly hardy, ever-blooming rose that is sometimes tea scented, sometimes rose fragrant, and sometimes a combination of both.

As to this matter of fragrance let me say right here that the rose that lacks it is, to my mind, not to be held eligible for any garden. For the rose is, above all other things, a flower to be grown for the purpose of cutting and the enjoyment of the individual that comes with this close contact. And while form and color are delights to excite the greatest admiration and pleasure in the observer, it is the sweetness of the flower after all that ravishes the sense and transports the being. Red roses are richest in this fragrance, pale roses most delicate or lacking it altogether, and yellow roses or roses bordering on that shade, most mysteriously odorous of tea.

Of the Rugosa class and the others mentioned I shall speak later; those just described I want to consider while they are fresh before us—the manner of growing them and the methods of handling them generally—for these are the three classes from which the most of roses grown in rose gardens, come. In the first place, how ought they to be used in the garden? And then,

as a second question, how may they be adapted to the limited opportunities of a limited garden?

Answering the first, they ought never to be used as we use shrubs because they are not shrubs, however shrubby certain ones may be in their habit of growth. (The *Rugosas* are shrubs and used as such, as will be seen when they are considered.) These roses are cultivated plants in the fullest sense of the word, and therefore plants *requiring cultivation*. And this brings us to the necessity of planting them only where cultivation is possible; in other words in places specially prepared for them, where their peculiar needs may be easily met and invariably regarded. They may not be scattered here and there nor intermingled with shrubs nor utilized as a screen nor massed as a border planting nor any of the other things that may be done with some things. They must be individually planted for their own sake alone, precisely as a cabbage or a cauliflower is planted—and tended accordingly.

Obviously therefore, the place for roses is in a rose garden; and there is no gainsaying this, however difficult it may sound. Is it difficult, however? Not unless it is made so; for, after all, a rose garden need not be large and it need not be set apart by any walls or barriers of extraor-

dinary character. All that it really needs is recognition as a rose garden, and a habit of thought that accepts its existence and its somewhat different concepts as proper and to be granted. It need be nothing more than one unbroken plot set apart for these plants, if this is all that is possible—what we might call a bed if that term and thought were not utterly taboo in the right conception of the garden. Such a little garden space given over to the rose is better expressed perhaps by the term rosary; but terms do not greatly matter of course if the thing itself is right.

The essential is that every rose plant shall be easily reached—shall be accessible from the ground without stepping upon the loose, cultivated earth of the bed—that every plant shall be free from interference from every other plant in the assemblage, and that there be no interference below ground from the roots of trees or shrubs growing near by, nor overhead by reason of their shade. The great rosarian and good Dean Hole tells those who look for advice that “the rose garden must not be in an exposed situation. It must have shelter but it must not have shade. No boughs may darken, no drip may saturate, no roots may rob the rose.”

Further than this it only remains to say

roses require precisely the same almost daily cultivation of the surface of the soil above their roots that vegetables require. Provide them with such a garden all to themselves or with such a rosary as will furnish all of these things and you have done all that may be done—and you will have roses accordingly.

The kind of soil which is suitable for the Hybrid Perpetual and Hybrid Tea roses is practically the same, except that the latter have not the same taste for clay admixture that the former have. It can hardly be too rich and heavy for Hybrid Perpetual roses, but Teas and Hybrid Teas will do better if such a soil is made lighter and warmer by having a portion of sand worked through it. When it comes to the actual mixing of a soil, follow the proportions of one part well decomposed stable manure to three parts of good rich loam or vegetable mould such as woods earth represents. This does not mean that a special soil must be made up in order to grow roses; but this is the ideal which ought to be approximated as nearly as possible, in order to grow the best roses. The soil of a good vegetable garden, or such soil as will furnish a good vegetable garden when it is worked up, is perfectly all right for roses, when suitably enriched with manure.

Many times advice is given to dig all the soil out of the proposed rose beds to a depth of two feet or more and replace it with soil specially mixed and worked over for the purpose. Under some circumstances this should be done; and where it is done, be sure that no part of the work is slighted. Have the space to be planted excavated to the proper depth—two feet to thirty inches at the least, for roses are deep rooted plants and the purpose is to provide perfect drainage *below* their roots—and as the excavating is done, pile the sods, the top soil, and the subsoil in separate piles.

Once down to the level decided upon, the floor of the excavation should be loosened up well with a pick and a layer of stones, cinders, broken bricks, or gravel—any permanent drainage material—spread upon it from three to five or six inches in depth. Upon this throw in the subsoil, mixed with one quarter its bulk of well-decomposed stable manure—from cow stables, preferably—then put in the sod, which should be broken up thoroughly and also mixed with one quarter its bulk of manure; and last of all fill in with the top soil into which no manure need be mixed. This final layer may come three inches above the adjoining earth, for when the space finally settles, under the action of the

elements, it will be a little less than level with the unworked ground around—which is precisely what it should be to catch and hold the moisture when it rains.

It is not necessary to go to this great pains always however, and for the gardener who has average soil to work with I would not suggest it, unless his ambition is to grow something exceptional in the way of roses. For as I have said, roses will almost certainly grow practically anywhere, and if you will remember that the Hybrid Perpetuals will *not* do well in a light soil—that they do positively require a heavy, strong, clay—and that Hybrid Teas will do best in a light soil, but that both require absolutely *perfect* drainage; that both need a root-bed made up of at least one-quarter its bulk of thoroughly decomposed stable manure (but that this must not have lain out in the open and so lost its enriching elements), you will be sure of success. Examine the proposed site of the roses, use common sense to bring it to the proper condition, and then proceed.

As they are larger and stronger growing plants Hybrid Perpetuals are usually set further apart in the beds than Hybrid Teas, the proper distance between them being two and a half feet while between the Teas and Hybrid Teas it is



Whether trailing over a bank or supported as here, climbing roses are one of the most dramatic elements in all the world of flowers as well as one of the least capricious

only necessary to allow two feet. If a double row is to be planted in a bed—and more than a double row is not advisable, since every plant must be accessible from the outside of the bed—a width over-all of four feet will make it possible to set the plants nine inches from the edge of the bed and the required distance apart; they may be staggered instead of planted directly opposite each other and enough space gained on a bed of ten feet in length for at least two extra plants. I do not like the effect as well however as I do when they are placed evenly along the two sides and opposite—and the gain is after all inappreciable.

So much for the roses of high culture, which give us the glorious double and exquisitely formed flowers we commonly visualize at the mention of the rose. That they are the result of high culture, that they are truly patricians with an almost endless line of noble blood back of them we have only to examine the wild roses of the different parts of the world to see. For in the uncultivated rose “the corolla is composed of five heart-shaped petals, which constitute the rose in its single or natural state”—as who does not know, since they grow wild everywhere in our country as well as in most others.

The wild roses of different parts of the world

vary however, quite as much as the races of men; and the wild rose of Japan, Corea, and Northern China is so much more beautiful than any other and so much finer in every way that it occupies a place quite by itself in the rose world. This is the *Rugosa* or *Ramanas* rose, introduced to the western world about 1885, and immediately firing the imagination of rose growers and horticulturists in Europe and America, who foresaw in future hybrids from it the ideal perfectly hardy and continuously blooming roses they had so long sought to produce. This of course was the beginning of the *Rugosa* group.

Of these possibilities suffice to say that certain splendid roses already offered bear out their expectations and stimulate their endeavors further; but these are not of as great interest to us here and now as the type itself, and its several variations that still maintain the characteristics of the original. It is a delightful shrub, notwithstanding it is a rose, and perfectly at home in the midst of a shrubbery mass where its splendid foliage, rich green in color and deeply rugose or creased and wrinkled, furnishes an unusually vivid element. Its large pink or white single blossoms (or semidouble as they are in some of its variants) are produced freely in early summer and at intervals all summer; that is, there

are usually blossoms here and there over a bush, all summer long—and the fragrance of even a solitary flower is sufficient to be noticeable in passing the plant. Its scent indeed is exceptional in that it seems to be so abundant without being strong. In which connection it is interesting to know that it was used a thousand years ago by the Japanese court ladies in the preparation of a perfume; and it has always apparently been accorded recognition in its native land, and been high in favor.

As a natural hedge the rugosa rose is splendid, where there is space to allow it free growth. The individuals sucker freely, however, and cover a space fully four feet wide, hence should not be used where space is limited. But no shrubbery border ought to miss its exceptional contribution; and it can as a matter of fact be kept in check by pruning back very much as any sheared hedge is pruned. Handled in this way it becomes an absolutely impenetrable thicket, owing to its spines and its habit of suckering—that is, throwing up endless shoots direct from the roots, as the lilac does.

The wichuraiana rose came to us in 1893 also from Japan, introduced by the late Jackson Dawson of the Arnold Arboretum; and it is the progenitor of a great number of the loveliest

climbing roses in the world—the *Wichuraiana* group—produced by our hybridizers through crossing it with *Teas* and *Hybrid Perpetuals*. Of it authorities say that it does well in all sorts of situations, which is literally true; and inasmuch as it and its offspring are climbers, there is the added feature of its requiring space vertically instead of horizontally, to recommend it to the smallest garden.

Furthermore, nothing ever ails roses of *wichuraiana* parentage—and insects never seem to care to devour them. Their foliage is invariably glossy and even without the flowers the plants are highly decorative—which cannot be said of the hybrids of the *Multiflora* group, another developed about the same time from the *multiflora* rose, introduced also from Japan. The well-known crimson rambler is an example of this class, remarkable many of them in floriferousness but nearly all marred by susceptibility to mildew and the depredations of insects. Among climbing roses therefore always look for *wichuraiana* parentage and avoid *multiflora* parentage—unless proof of foliage quality throughout the season in one of the latter is available.

The *Noisette* roses are a much older class—three generations older indeed—distinguished

by being clustered in flower. Their origin was about 1814 and curiously enough American, though it was Louis Noisette of France who sent them out first and for whom they are named. They started with a hybrid between the tender China or Bengal rose and the equally tender musk rose; and of them it is enough to say that some of the finest yellow roses are in this class—but that they are not more hardy than the Tea rose.

No chapter on roses is complete without reference to the wild roses of our own United States, which offer material for shrubbery planting and for naturalizing in wild situations, quite unrivaled. There is first of all the prairie rose—*rosa setigera* of the botanists and nurserymen—which grows six feet high and has long, drooping canes that are loaded with the clustered single pink blossoms for two or three weeks at a time, since they do not open at once but successively.

Then there are the six-foot *rosa lucida* with solitary bright pink flowers and warm red-brown stems in winter that are most decorative, with bright red hips or pods scattered along them; *rosa humilis* that is usually only half the height of the first which it otherwise closely resembles; *rosa nitida* which is again half the

height of the preceding—in other words scarcely more than a ground cover, for which it may be used with exceptional effect on rough banks and wherever a semiwild growth will be suitable; and *rosa Carolina*, which grows to a height of eight feet and has pink flowers in corymbes. There are of course others, but they are not sufficiently important to be mentioned.

One may therefore choose almost any kind of rose garden, sure of finding material just among roses with which to plant it exclusively. Or he may combine the different types into a grand *ensemble* of roses which shall demonstrate the flower's infinite capacity for adjustment to varying situations the while it provides a garden of extreme individuality and delight. Or he may shelter a doorstep with a single climbing rose, or plant a fence with these, in variety. There is indeed practically no limit to the possibilities with this lovely and justly designated queen of all flowers, which has been beloved of all races of man and cultivated from the very dawn of civilization.

It has enemies in the form of disease and insects; but these are not difficult to control and, once the routine of maintenance in a rose garden is established, it becomes instinctive to spray as precaution—which is of course what insures

healthy plants and superlative blossoms. For the roses of a general character however (as distinct from the Hybrid Perpetuals and Hybrid Teas) spraying is rarely required, since the really good varieties of both climbers and shrubs are rugged enough to withstand all sorts of attacks. It is not possible to go into all the details of either spraying or pruning here, however; but a list of authoritative books on the rose will be found at the end of the book, which will provide explicit directions for the least as well as the greatest of rose garden operations.

I must say this, however, as to pruning: cut your roses as freely as you will—all of the Hybrid Teas and Teas as well as the others, though it is less important with them—because the rose always blooms upon *new* wood; in other words, its flowers are borne on branches that have risen during the current summer. Pruning (of any plant) induces the formation of new branches to take the place of those sacrificed, therefore free cutting—which amounts to pruning—of the rose induces constant formation all through the season of just the wood necessary to insure more blossoms. And in cutting the flowers, cut with as long stems as possible without sacrificing undeveloped flower buds, in order to induce the new wood to form low down on

the bush and thus avoid making it over heavy at the top.

A ROSE DIRECTORY

This list includes the choicest in each class in the various colors. All but Rugosa and H. P. roses should be given some protection throughout the northern zone of the United States, which may be said to extend to the latitude of the southern shore of Lake Erie; below this to the northern boundary of Tennessee the Tea roses need protection, but from this latitude on south—except in the cold mountainous regions—no protection is necessary. The Rocky Mountain region generally, north or south, is not suitable to roses of any kind, though there may be spots favoring them here and there.

HYBRID PERPETUAL

Gen. Jacqueminot	Red
Anne de Diesbach	Red
Magna Charta	Rose carmine
Mme. Gabrielle Luizet	Pale pink
Margaret Dickson	White
Frau Karl Druschki	White (lacks fragrance)
Yellow Frau K. Druschki	Yellow

HYBRID TEA

Château de Clos Vougeot	Heavy scarlet
Edward Mawley	Crimson
Gen. MacArthur	Scarlet
Los Angeles	Flame pink
La France	Silvery pink

Queen of Fragrance	Pink
Florence Pemberton	Blush white
Viscountess Folkestone	Cream white
Bessie Brown	Ivory white
Mrs. Aaron Ward	Yellow
Duchess of Wellington	Yellow

CLIMBING

Excelsa—Hybrid Wichuraiana	Scarlet (use instead of Crimson Rambler always)
Climbing American Beauty—H. W.	Deep rose
Bess Lovett—H. W.	Bright red
Dr. W. Van Fleet—H. W.	Pink
Silver Moon—H. W.	White
Aviator Bleriot—H. W.	Yellow
Gardenia	Yellow to white

SHRUBBY ROSES

Roseaie de l'Hay—Hybrid Rugosa	Dark red; very fragrant
Belle Poitevine—H. R.	Pink; free bloomer
Conrad Ferdinand Meyer—H. R.	Silver pink
New Century—H. R.	Flesh pink, double and large
Nova Zembla—H. R.	Pure white; abundant
Blanc double de Coubert—H. R.	White, semi-double, large, long season

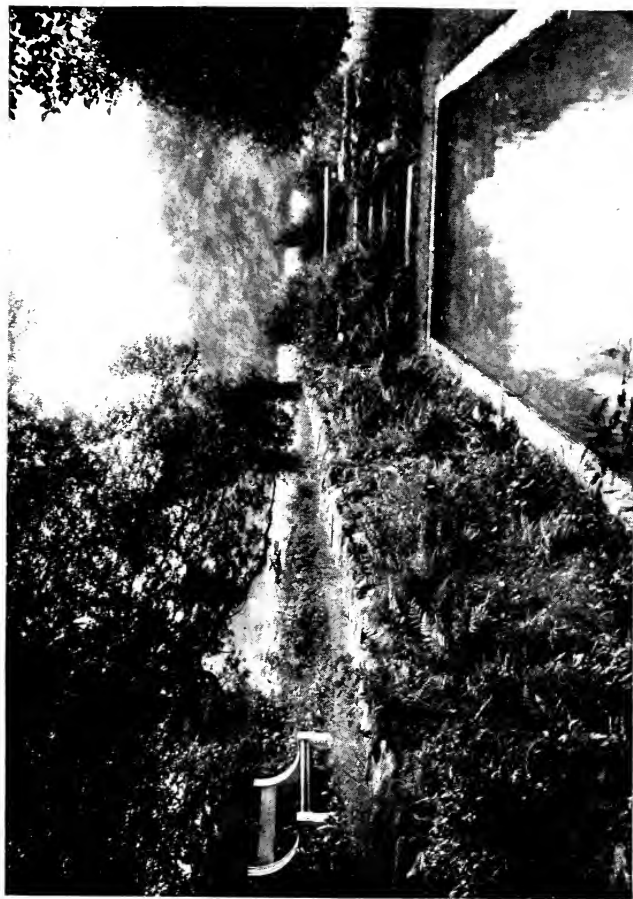
“There is not in the wide world a valley so sweet,
As that vale in whose bosom the bright waters meet.”
—*The Meeting of the Waters*—MOORE.

CHAPTER XVI

WATER FEATURES AND WATER FLOWERS

NOTHING that we may have in a garden is as temperamental as water: nothing will change the whole mood of a composition so definitely as it may be changed by the manner in which this element is handled. It introduces moreover, however it may be handled, a lively interest which accompanies nothing else. But it must be keyed to its surroundings even more thoughtfully than the other elements of the garden, just because it is so vivid and temperamental. Wherefore let us examine its two opposing aspects and analyze them.

In one it is animated and lively and gay, personifying activity of the highest degree; in the other it is subdued, placid, the very essence of repose, pensive and even melancholy under certain circumstances. Obviously here is a wide



Embodiment of mighty energies, water when in repose becomes the one perfect expression of rest, and thus a quiet pool is veritably a benediction to the garden

range of choice, and just as obviously a choice must be made. For except under very unusual conditions these two aspects cannot be successfully combined. That they are both very often seen together in elaborate gardens is no argument for the propriety of using them thus, nor for methods that ignore all nicer subtleties of harmony.

Water in motion, curiously enough when we stop to think of it, does violence to its own profoundest law; for water is, by its very nature, static. It seeks its level—which is *rest*. Hence nothing can be more agitated, more ill at ease in a sense, than the rushing, tumbling stream or the plunging cataract; just as nothing is more expressive of force irresistible than the spurting jet or playing fountain, though the latter may be as a matter of fact an expression of a certain contentment which the stream is denied, inasmuch as it merely dances at its level, otherwise its place of rest.

Yet neither the jet nor the fountain of gentlest play will produce the serenity which is, in the last analysis, the very heart and soul of the kind of garden desirable to live in. Only the pool will do this; for the quiet pool is above all at peace—*satisfied*—resting, pensive, setting up at the first glimpse of its shining surface the mood

of reverie. Its still waters engender a reflective quiet of spirit that will pervade the whole garden, brooding over it to its eternal serenity and enchantment. On the other hand however, always be on guard against emphasis laid too exclusively upon this quality lest the calm become moodiness, taking on a somber character in some way. Reflections which the water catches have a deal to do with this. Be sure therefore that it is sunlight and not shadow which lies upon it—in other words, choose a location for a pool always in the open and never beneath the shade of trees. An overhanging branch may be permitted, for its reflection; but never more than one-third of a water surface should be in shadow, regardless of a pool's size and of whether it is formal or naturalistic in character.

In the small garden it is necessary to choose between water as the garden's dominant feature; or setting apart a portion of what may already be very limited area for a tiny water garden; or being frankly playful and introducing a veritable toy pool secluded where it can be a little surprise—surprise being one of the garden's most valuable assets, by the way. Let us never lose sight of this, whatever feature is being considered. Not that it is ever desirable to be

melodramatic nor to astonish through bizarre efforts, but wherever some charming bit may be come upon unexpectedly in an unforced, natural manner the whole garden will gain immeasurably in interest.

This necessity for water to dominate or else be set apart and hidden lies in the character of the element itself, and is unavoidable. For if a pool is exposed to view throughout the entire area of the garden, it focuses interest no matter what other features are in evidence, and even though it is not large. So it is always a question for the individual to decide—whether water will be an adjunct or the feature of his garden; providing of course it is the small garden of the type dealt with here throughout. Whichever choice is made however, interest in the pool itself must never distract from the necessities of its surroundings nor beguile into a belief that the pool alone is quite enough. A rich background is necessary, this being the general background of the garden of course, where the pool is allowed dominance, but narrowing to the planting and features which seclude the water, where it is set apart.

This background must be supplied with reference to its importance in the general scheme both from without and within—and also in the

indirect aspect in which reflections in the water will present it. There are the skyline, the color, and the marginal line, as these repeat in the water; and they are sometimes quite as vivid in their inversion as in their actuality. The pool indeed may very well be considered as exactly doubling the garden's loveliest effects, since there is within its depths a persistent *de capo* presenting every theme with nuances differently shaded. Its reflections are truly therefore as much a part of the garden as the plants and flowers which provide their substance.

As with all the other elements in the design of the small garden, the pool that makes no effort to be naturalistic will best suit its environment. Frankly a basin to hold water that is artificially provided, it still has opportunities for grace and beauty in its form; that this form shall frankly express its true character rather than endeavor (in vain, inevitably!) to create an impression of being a natural product, is the only thing possible unless all sincerity is sacrificed.

No one has come thus far along the garden way with me, I am confident, without realizing that the ideal which it is my contention should ever be set up and persistently striven for, in garden concept and garden design, is straight-

forward sincerity. Where a pool truly natural is possible—and by truly natural I mean absolutely without any interference by man except to the extent of building a dam possibly, to hold back the waters of a little stream, or excavating a bog or natural drainage basin where surface waters collect, until such basin is deepened sufficiently to hold water throughout the season—naturalistic treatment of its margins and of its planting will follow as a matter of course under this ideal. But where a pool is built, even though the building is not done with cement, in form and marginal finish and general treatment let it be honestly *unnaturalistic*.

This does not preclude the use of grass margins any more than it need involve wide and ugly copings of concrete, for turf may be carried right to the water's edge of a square, round or rectangular pool quite as well as to the edge of one of irregular shape. Moreover it need not involve a set and formal treatment of the garden generally; for there is a vast difference between frankly admitting our human part in a garden, through its design and ordered and orderly beauty, and emphasizing our presence by making every feature aggressively eloquent of ourselves and our dominion over inanimate materials.

The construction of a garden pool may or may not involve a considerable outlay, not merely according to its size but according to the method employed and also the source of the water supply. If this has to be piped from a main it is one thing, if it comes from private supply upon the place it is another, and of course if it is available from a spring or spring-fed rivulet or stream, it is still another. Most common is the first named; and the manner of piping into the basin as well as of constructing the latter is therefore more generally typical. The bottom of the finished basin need not be more than two feet below the surface of the ground and a thickness of six inches is sufficient for this. Hence an excavation three feet in depth is enough, since it allows full six inches for a cinder-bed upon which to build the bottom of the pool. It is not supposed always to be necessary to start with such a foundation; but it is very safe to do so.

Both bottom and sides of a concrete basin should be reinforced with strong wire netting, wire lathing or bars—the latter are necessary only for large tanks where the walls are eight inches in thickness—placed so that it comes in the middle of the concrete when this is poured in. And the sides of small pools should slope

in from top to bottom, outside as well as inside, as a precaution against heaving by frost, this slope giving the cross section of the finished basin something the appearance of a huge uncovered vegetable dish.

Large pools must have thick walls and be frost resistant; and even in these it is better to slope the walls outward from bottom to top. For in the event of water freezing in them during an extreme winter, the expansion is given opportunity by the greater width at the top for upward play, and this insures the walls holding without cracking.

The water should flow in at the side at the top and be taken out at a central vent into which a standpipe is sometimes inserted to maintain the overflow level. I must confess that I dislike this method however as unsightly, and prefer a side overflow; and as it is never supposed that either intake or overflow shall be rapid, there is no reasonable objection to it. The vent at the center, where the floor of the pool may be slightly depressed, is of course to be retained in order to make complete drainage easy when necessary, with a close fitting plug or cap closing it at other times. For very tiny pools, however, surface filling with a hose will suffice and the water may be dipped out when it is advisable to clean the

bottom. As a matter of fact, however, such cleaning is seldom needed, since a bottom cover of gravel ought always to be spread above earth if this is placed directly in the pool for the purpose of growing plants therein; and this gravel should remain undisturbed throughout the season at least.

A small pool may be made by digging out the earth in the form of a deep saucer—oval, rectangular, or round as desired—instead of making side walls that are definitely vertical. Such an excavation as this slopes gradually down to the requisite depth and actually becomes a big saucer of concrete, when finished; for the four to six inch layer of this is molded directly onto the ground and rests in the depression quite secure from frost action. Make the wall gradually increasing to the greater thickness as it reaches the lowest point; and make its descent as steep as you choose, providing you avoid an actually flat bottom. For all concrete pools the proper proportion is one part cement, two parts sand and three parts broken stone or gravel.

Of water plants there are a great number; and many kinds. The water-lily is of course the best known of all, for it grows in all parts of the world and is one of the loveliest. Always re-

member, however, that water as a feature of the garden must be itself in evidence and not obscured by growth upon its surface. Which is by way of reminding that great restraint is needed to hold enthusiasm in check when it comes to planting a pool or water garden; for if it is large and roomy, the natural feeling is that it will accommodate a considerable number of plants, and if it is small it will at least afford opportunity for raising one's own water-lily!

This is as likely as not what it will not do, however; for there are few things in the plant world as huge, considering their root-hold, as most water plants. It takes very little space comparatively to afford a water-lily support, the allowance per plant in cubic feet ranging from four to ten—the latter being for the tender kinds which are more luxuriant growers than the hardy varieties. This, being interpreted, means a box of earth from two feet square by one foot deep to three by three-and-a-half by one foot. But a plant growing in a box of this size will cover a water surface ten by ten feet; hence in a pool no larger than this there is actually no room for even a single ordinary water-lily if the water itself is not to disappear! There is happily however a pygmy variety from Japan that may

be grown in close quarters, if the gardener simply cannot live without one.

Instead of water-lilies however there are several charming aquatics less rampant in growth and of long extended bloom, available for modest pools. One of these which cannot fail to be a source of great pleasure is the water hyacinth, the weed which put an end to navigation on a southern river years ago but which above the frost line can never be a menace, even if it escape from cultivation, since it is tender and killed back by winter. There are two varieties of this, one bearing lavender-blue flowers, the other blossoms of a rosy-lilac. The former needs to be planted in soil under four to eight inches of water, but the lilac-flowered variety (which is the pest) is a true floating plant and needs only to be placed on the water. It will take root of itself however, if the water is not more than six or eight inches deep and there is earth at the bottom; and as it blossoms during July and August when other flowers are not abundant, it is highly desirable.

It may be grown also in an ordinary tub half filled with earth and filled to the brim with water; and if no other attempt at water gardening seems desirable or possible, here is an interesting variant of it that may entertain if one

has no more than a windowsill as a garden site; or such tub may be sunk into the ground in any sunny spot in ever so large a garden. The rapid growth of the plant is easily overcome by the simple expedient of taking out as much as necessary as often as necessary; and for over-wintering, a broad bowlful indoors is a most desirable mass of living green for any room.

Another suitable plant is the water poppy, also tender and needing to be kept in a tub indoors in winter. Its preferred submergence is under the same depth of water as the water hyacinth—six to eight inches—and its leaves and flowers also float. The latter are yellow and suggestive of the poppy, and they are abundant and continuous all summer. And a third charming water plant is the water snowflake which has small white flowers with petals like an ostrich feather. This requires water four to eight inches deep, and must likewise be kept in the house in winter.

When it comes to a consideration wholly of water plants as garden material, separate and distinct from the pictorial contribution of the element in which they grow, the use of tubs sunk into the ground has much in its favor, especially for the small garden. They are easily acquired, for the first thing; each one takes care of one

plant; and the water-flower garden is thus capable of expansion or contraction on the unit system. No system of piping is needed either to carry water into them or away from them, since they may be filled to overcome natural evaporation with a hose running a gentle stream, while they are taken up bodily and emptied as may be desirable. In such receptacles half or two thirds full of the proper soil, on which a two-inch layer of clean white sand is spread to prevent the water with which the tub is then filled from becoming turgid and muddy, it is possible to grow many of the loveliest water-lilies, which are botanically distinguished by the name *nymphæa*, and all of the lotus, which are *nelumbium*. These last do not float their flowers nor their leaves upon the surface of the water, but lift them clear of it from three to five feet and send their great flowers up higher yet on very strong stems.

Because of this habit of growth, *nelumbiums* are distinctly not to be used, even singly, where the water effect is intended; for nothing will keep them within bounds. They have the true tropical capacity for quick and assertive growth, and though they will not endure the northern winter out of doors—the tubers are dug up and taken inside in the fall—they advance so boldly

as soon as they begin growing after planting out, in May, that nothing else stands a show in competition.

Interesting these plants are without doubt, although the true lotus of Egypt—the sacred lily of the Nile—was really a blue-flowered nymphæa—*Nymphæa coerulea*—which seems unquestionably to have been the plant Isis is supposed to have pointed out to the people as fit for food. Its petals have been found in mummy cases while its leaves and flowers are shown repeatedly in ornament. Even the interest in nelumbiums from the legendary point of view abates therefore, in the light of understanding; and there seems to be not a great deal to recommend them to the garden of to-day, since they are such strident specimens.

In addition to plants of an aquatic character, all pools should have subaquatics in them to aerate the water. The best of these for small gardens are washington grass—*Cabomba viridifolia*—or eel grass—*Vallisneria spiralis*. One plant of either to every twelve to fifteen square feet of surface on a pool two feet deep will be sufficient. And of course with these as with all other aquatic growth, thinning out must be constantly resorted to if the plants grow unduly.

Finally, there should be fish—goldfish preferably, since they are like nothing less than darts of flame beneath the waters of a pool—but any small fish will serve the purpose of keeping down the mosquito larvæ, *providing* there are no shaded corners and obscure little spots into which the fish cannot or will not penetrate. Naturally in the tubs of which I have spoken, where plants are grown that hide the water altogether, a condition of shade prevails throughout; and in these it is extremely doubtful that fish will thrive. Not that they are averse to shade, but they must have a modicum of light and assuredly plenty of air. Therefore, even when growing plants wholly for themselves, it is well to keep a little of the water's surface exposed either by crowding the vegetation back or cutting it away as it encroaches too much. The allotment of fish is a pair per tub or pool up to twenty feet square, with a pair added for each additional twenty-foot square unit. This is not to say however that more than this number may not be introduced; but twenty-five are enough to stock a pond seventy-five by one hundred feet in size.

All water-lilies require still water; therefore when it is necessary to replenish a pool wherein they are growing, be very careful that no com-

motion is made. A small stream allowed only to trickle in at the edge, is the proper way to bring the water level up when this has been lowered through evaporation. And of course this makes it apparent that even the most gently playing fountain is not to be considered as a proper place for them, though I have seen them thrive where water merely overflowed not much more than a drop at a time from a brimming tazza in the middle of a pool. I would not advise even this much activity however, where absolute certainty is desired. Absolutely still, warm water under full sunlight is invariably the best.

The soil in which water-lilies are to be planted may be any good garden earth enriched with one fifth its bulk of well-decomposed manure, preferably from cow stables; or with one quart of bonemeal to each bushel of soil. Planting is accomplished by simply pushing the root, which is a rhizome, or elongated banana-like form, into the soft mud-earth in a horizontal position and deep enough just to cover the crown or growing tip. To hold it in place until growth has started a stone may be laid upon it; this should be clear of the growing tip however. Of course in practically every instance of planting in a small pool or a pool of concrete, the roots are

set into boxes of earth and these are then sunk into the pool; but in natural pools or pools of a naturalistic character, without cement bottom, the rhizomes may be planted directly in the earth.

If they require wintering indoors take them up as soon as frost has touched the leaves and replant in tubs indoors until their leaves have ripened off. Then the roots may be dried out and stored in moist sand where they can be kept at a temperature of about 60° Fahrenheit. Hardy varieties however need no care unless the depth of the tank is not great enough to insure its not freezing at the bottom if the water is left in. If you cannot be sure of this, it should be drained and the basin filled with leaves with boards over them to hold them in place; or, if the plants are set in boxes, the boxes may be drained and brought indoors into a cool cellar or covered up anywhere out in the garden securely enough to keep frost out.

Early in this chapter I spoke of excavating low ground to make a pool where before only a bog or swampy place may have been. This is not an opportunity often found within the limits of the small garden or the village or town community. That it may sometimes present itself however is sufficient reason for a word more

about it. Regardless of the conventional, and of the advice of well meaning but unimaginative people who are unable to see such a condition as anything but a low, unhealthy, miserable place, consider well the possibility of overcoming all the drawbacks of it by simply adopting its suggestion and going it several better.

The task of draining and filling a bog is one of the most thankless as well as most uncertain that can be undertaken; for there are as likely as not springs at the bottom—literally—of the whole thing. If you proceed in the other direction however, it is practically impossible to go wrong; for the deepening of the lowest portion will inevitably drain into this the moisture from the higher ground around, and whether the water is from springs or from the surface only, it will be provided with a limited basin into which it will settle and remain. And this in turn will provide your garden with a most unusual and altogether delightful feature, with the accompanying opportunity of growing plants and flowers denied to the commonplace site lacking this element. Even if the water disappears during midsummer, you may still have most of the things here listed; for all save the aquatics themselves will accommodate to temporary lack of water. For of course when this lack occurs

on the surface there is still moisture below and in the ground, since all drainage is into such a basin.

AVAILABLE MATERIAL

These are plants suitable for association with water in the garden, or use in low, moist places. The selection comprises those in each class that have a distinct need of very moist conditions, and if they are used in naturally wet ground they will need no especial attention. If used near artificial pools, where the ground is not naturally moist, make some arrangement by which overflow will provide the proper conditions for them.

TERRESTRIAL PLANTS

SHRUBS

Groundsel tree	<i>Baccharis halimifolia</i>	3 to 10 feet
Sweet pepper bush	<i>Clethra alnifolia</i>	3 " 4 "
Marsh Mallow	<i>Hibiscus Moscheutos</i>	3 " 5 "
Elder	<i>Sambucus racemosa</i>	10 " 12 "
Button-bush	<i>Cephalanthus occidentalis</i>	3 " 12 "

BAMBOOS AND GRASSES

Dwarf bamboo	<i>Bambusa viminalis</i>	2 feet
Bamboo	<i>Bambusa Metake</i>	6 to 10 feet
"	<i>Bambusa Simoni</i>	15 " 20 "
Plume grass	<i>Erianthus revenna</i>	10 " 12 "
Eulalia	<i>Eulalia gracillima univittata</i>	5 " 6 "
Fountain grass	<i>Pennisetum Japonicum</i>	4 " 5 "

HERBACEOUS PERENNIALS

Swamp milkweed	<i>Asclepias incarnata rosea</i>	3 feet
Goat's-beard	<i>Astilbe Arendsi</i>	2½ to 3 feet
Tree Celandine	<i>Bocconia cordata</i>	7 to 8 feet
American senna	<i>Cassia marilandica</i>	3 " 4 "
Shell flower	<i>Chelone glabra</i>	2 feet
Thorough-wort	<i>Eupatorium calistinum</i>	2 "
Bowman's root	<i>Gillenia trifoliata</i>	3 "
Iris	<i>Iris ochroleuca gigantea</i>	4 "
Water flag	<i>Iris pseudacorus</i>	4 "
Japanese iris	<i>Iris Kämpferi</i> , all varieties	3 to 4 feet
Cardinal flower	<i>Lobelia cardinalis</i>	3 feet
Meadow rue	<i>Thalictrum adiantifolium</i>	1½ to 2 feet
Mauve meadow rue	<i>Thalictrum dipterocarpum</i>	4 feet

FOR GROUND COVER OR MARGIN

Meadow beauty	<i>Rhexia virginica</i>	9 inches
English cowslip	<i>Primula veris</i>	6 "
Moneywort	<i>Lysimachia nummularia</i>	Trailing

AQUATICS AND SUBAQUATICS

FOR TUBS AND SMALL POOLS

Japanese water-lily	<i>Nymphaea pygmæa</i>	White
" "	<i>Nymphaea pygmæa helvola</i>	Yellow
Miniature water-lily	<i>Nymphaea odorata minor</i>	White
Blue lotus (tender)	<i>Nymphaea cærulea</i>	Blue
Water poppy	<i>Limncharis Humboldtii</i>	Yellow
Water hyacinth	<i>Eichornia crassipes major</i>	Lilac-rose
Blue water hyacinth	" <i>azurea</i>	Lavender-blue
Water snowflake	<i>Limnanthemum indicum</i>	White
Villarsia	<i>Limnanthemum Nymphaeoides</i>	Yellow
Eel grass or wild celery	<i>Vallisneria spiralis</i>	(Subaquatic)
Washington grass	<i>Cabomba viridifolia</i>	"

FOR NATURALIZING IN DEEP WATER

Common water-lily	<i>Nymphaea odorata</i>	White
Large-flowered water-lily	<i>Nymphaea odorata gigantea</i>	White
Cape Cod pink water-lily	<i>Nymphaea odorata rosea</i>	Pink

TENDER DAY-BLOOMING

(All blue varieties are in this section)

Cape blue water-lily	<i>Nymphæa Capensis</i>	Sky-blue
	<i>Nymphæa Daubeniana</i>	Light blue
	<i>Nymphæa Zanzibariensis</i>	Blue-purple

TENDER NIGHT-BLOOMING

(Gorgeous and profuse-blooming, these remain open on dark days)

<i>Nymphæa Dentata</i>	White
<i>Nymphæa Deaniana</i>	Pink
<i>Nymphæa Devoniensis</i>	Red
<i>Nymphæa Jubilee</i>	White-pink

“How could such sweet and wholesome hours
Be reckoned, but with herbs and flowers!”
—*The Garden*—ANDREW MARVELL.

CHAPTER XVII

ROCK GARDENS AND THEIR PLANTS

THERE are four distinct kinds of rock garden; or perhaps it is better to say that there are four ways in which rocks and stones are used to provide special conditions wherein only special plants will grow, the rocks being utilized equally with the vegetation to produce an effect. The first alone is entitled to be called a rock garden, the second is a wall garden, the third a stone or flagged garden and the fourth, which is not a garden at all, is the rockery. Of this last I will say in passing that garden effect is really unthought of in connection with it, since it is essentially a botanist's or plant collector's specimen cabinet, in which his treasures are preserved (and maintained alive) even as the geologist's are stored in a wooden cabinet in his library or laboratory.

The rock garden is perhaps the most im-

portant—at least it is less often possible, since natural disposition of a terrain is essential to it, therefore it is rare; and rarity gives importance. Of it there is first of all this to be said: it is above all the result of making the best of things, of accepting and adapting to difficulties instead of seeking to overcome them. Or this is what it *seems* to be! Actually a true rock garden results from seizing a wonderful opportunity and using all the cunning of which man is capable not to impair in the slightest degree its advantages, while at the same time further ones are created so artfully that they seem also to have happened quite by the accidents of nature.

No people in the world perhaps equal the Japanese in work of this sort (but let me say right here, and emphatically, that in general the so-called Japanese gardens seen in this country are not examples of this work, nor an exposition of the consummate garden art of Japan!), which requires the closest observation of natural forms and of minutest detail, coupled with the patience and the skill in handling both rocks and plants that reproduces these forms absolutely. Unless we are willing to carry the work of imitation to the same high degree of perfection reached by the Japanese gardener, who gathers the mosses from around a boulder when he is

about to appropriate the boulder itself, and keeps these in such a way that he puts them back down around and against and on it in just the same relation they originally held, with every patch fitted accurately to its proper neighbor, we are bound to fall short of the exact and wonderful naturalism that is alone excuse for attempting to be natural.

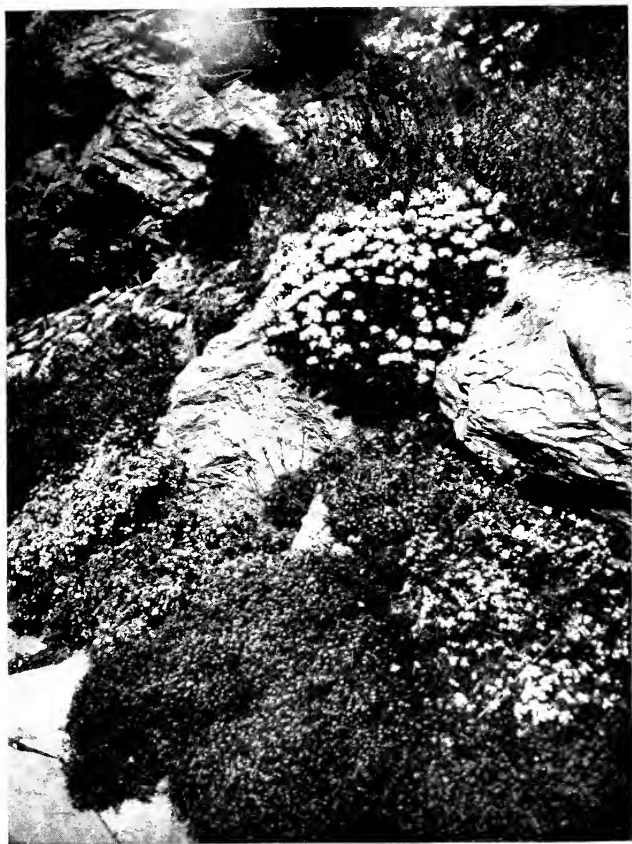
It follows moreover, where this sort of thing exists, or is brought into existence by artistry so finished, that it must be dissociated from every hint of a contrary element. Therefore it is not only seclusion from the vision of the outside world that a rock garden demands, but that deeper seclusion that belongs to the heart of nature, as it were; the seclusion of the mountain top or of the deep, wild glen—a something more than outward hiding, a real inward solitude. Hence for the perfecting of a rock garden it must not only be undreamed of from without but it must leave the outside world undreamed of, from within.

Within the limitations of a small place, this is a thing seldom possible to achieve. Wherefore it appears that the rock garden is not, usually, within the possibilities of any but the larger places—unless an inhospitable and unfavorable scrap of land is acquired, which may become a

rock garden throughout with a suitable dwelling in the midst, the whole secluded from the commoner elements of the world without. Now and then a small garden may have a corner or an end descending abruptly enough to allow of its being planted out with shrubs and trees and made the site of a small rock garden; and of course there are here and there individual opportunities which cannot be foreseen or guessed for realization of all the ideals outlined.

It would be idle to go on, therefore, in an attempt to consider all kinds of possibilities; so of the best site it is enough to add to the outline already given the advice never to attempt to construct a rock garden where natural conditions do not suggest this kind of garden above all others—do not in fact seem to say clearly that no other kind is possible. Where the earth's great rock skeleton does not approach sufficiently near the surface to be recognized, it is distinctly an artificial enterprise that drags in some of its parts from elsewhere and leaves them wholly or partly exposed. It is indeed so artificial that it offends the finer sense of harmony and produces, almost invariably, exactly the effect of their having been dragged in!

So much for where rock gardens do and do



By its very content setting forth the extremes of rough negligence and ruggedness the rock garden is farthest removed of all garden forms from any affinity with man's affairs—which is the key to its proper place and interpretation

not belong. Now a word as to handling the ready-made site—the rocky ledge, or the boulder strewn hillside, or the glen with a stream at its bottom perhaps. In general, let everything alone; where this cannot be done—as in the pathway by which one may thread between and over the rocks—make it seem to be a coincidence that rocks have arranged themselves conveniently. Do not build a path of definite and uniform width, but rather provide a casual way by which advance may be made safely and conveniently; where steps are necessary, let them be separated at some distance if possible rather than brought together in a single flight. Reproduce the twistings and indirect amblings of the negligent walker, who invariably sets his feet along the easiest way whether he is going uphill or down; turn abruptly around the face of a boulder or at the blank wall of a high rock against which the path *seems*, as approach is made towards it, to end. Do all of the things as a part of the rock garden which you would naturally do on a mountain ramble, in other words; for it is to provide such ramble, with all its unexpected twists and turns and delightful surprises, that the rock garden exists—partly.

By which it will be seen that this is one of the most elusive and difficult forms of garden mak-

ing. Do not let this deter from it, however, where natural opportunity is yours; and do not let the broad garden ideal which is here presented minimize the opportunity that just a single group of rocks, big and little perhaps, may hold for an actual rock garden in miniature. Where such a group rests, naturally deposited or naturally uncovered by the action of the elements, there is the suggestion for something special and delightful of which the gardener should be bold enough to take advantage. For it is not size that makes a rock garden any more than any other type; and though I have said that few small places boast the natural characteristics that inspire this treatment, I do not mean that the smallest presentation of the motif shall be disregarded, wherever it may offer.

The planting of a rock garden is, to a certain extent, always experimental. The plants that haunt such spots are by nature elusive, many of them; and it does not diminish this quality to raise them in captivity. I do not mean by this that they lack hardiness or strong constitutions; they possess both to an unusual degree in most cases. But they are all that the word elusive implies—temperamental, captious perhaps; who shall say? To have read Maeterlinck's careful *Intelligence of the Flowers* sug-

gests these things, and more. And certainly it is well established of alpine plants generally that in some places they will grow exuberantly while in other places, seemingly no different in the least detail, they will not. One must plant and try—and if at first you don't succeed try again!

Rock gardening is therefore somewhat exciting; and that it does take fairly a gambling hold upon its devotees must be admitted. Whatever the final intention may be, it is best to begin with the easily grown rock plants—distinctly not of the class known as alpine but just common, good-natured, easy-going and obliging little creatures, usually anxious to please and eager to live. True alpine are, as their name implies, plants of the mountains; some indeed are of the mountain-tops, away above timber line. Their culture is one of the highly specialized branches of garden interest that enthusiasts delight in; but this is not the sort of interest that promotes the finest garden, in the general sense—for one may be ever so profoundly interested in plants and yet have no garden worthy of the name, since the conception of a garden that the artist-gardener cherishes is always the answer to every requirement rather than to any one or two.

The wall garden wherein the stone ledges of

a wall—that is preferably built against the face of an earth bank to retain this—are planted with such plants as delight to grow under the conditions thus provided, offers possibilities that are very welcome where space is at a premium. Such a wall becomes indeed a garden on end—in the vertical plane—where a garden on the horizontal plane may be altogether out of the question. And as with all kinds of rock or stone work, plants of unusual charm because of their unfamiliarity and uncommon use, furnish the planting material.

In the construction of such a wall there is one thing to be kept constantly in mind: there must be what gardeners call clear root run from the earth pockets in the wall into the earth against which it is laid. Such root runs need not be straight of course, but they must be present throughout all portions of the wall and between each stone, practically. All plants will not send their roots back into the main body of earth, to be sure; but a great many—and some of these small, at that—will do so. It is not unusual indeed for them to reach eighteen or twenty inches with the thread-like filaments that they put forth in the search for creation's everlasting necessity—food. Furthermore this contact between the earth pockets and the mass of earth behind

the wall maintains the moisture in the former more evenly, as it makes them really extensions of it rather than detached portions. Very often no earth whatsoever will show in the cranny where a plant sets up its abode, the root hold being wholly back of the stones.

The stone or flagged garden is first cousin to the wall garden, differing in being horizontal for one thing, and in having well-opened interstices between its stones as these rest on the earth, in which low, spreading, trailing plants find place. As these overrun the stones here and there and fill the earth spaces with their tufty greens and various interesting forms, an effect altogether simple and quaint and lovely results; and for intimate and close relation with a dwelling such a garden, entered directly from a room perhaps and inclosed with a low wall, is one of the out-of-the-ordinary things worth having. Quite as effective in another way is it as a remote feature hidden away from the house and from everything else, to be come upon unexpectedly and loitered in—under the shade of over-hanging trees perhaps, or of vines held aloft by some simple form of arbor.

To come again to the rockery, too often mistaken especially in the generation going by, for an ornament—as well as mistakenly called a

rock garden—let us consider it first as to what it is, and then as to where it should be put. I have already said something about its real purpose and meaning—enough perhaps; but lest I seem to have condemned it out and out I wish to add that, where there is a collector or a botanist to inspire its presence or actually to need it, it is as legitimate a feature of a garden as anything else. The great trouble has been that its innate ugliness has never deterred from giving it a prominent place—all too often the center of an otherwise pleasant lawn.

That a stone pile is ugly, when it is artificially piled upon level ground where no hint of stones exists and when it takes the form of an absurd pyramid, there is no denying. I doubt indeed if it could take any other form and be anything else—but that is beside the question. Our concern is with finding a way to deal with it that will permit having it in a garden if it is desired, without detracting from the beauty of the whole and without renouncing even to a slight degree our cherished principles and concepts. There is of course one way to do all of this, and only one; that is to set apart a place for it, and even to emphasize this setting apart, at the same time seeing to it that not until entrance is made into the space is its feature suspected. It must not

be seen from any point outside; but the inclosure may be made in a fashion that will pique curiosity and interest so greatly that the impulse to see what it contains is irresistible.

Thus instead of minimizing a feature ordinarily ugly, and accepting its ugliness shamefacedly, as it were, its merit apart from outward appearance is asserted and its perfectly legitimate claims to recognition are pressed. And the garden acquires something interesting and amusing and instructive, instead of losing in quality and beauty.

Assuming that the form of rockery to be built is the common low pyramid, surround it at a sufficient distance from its base to provide generous walk space, with a hedge that shall become a high wall of green, through which a doorway shall give entrance from without. By doorway I mean an arched opening *through* it, instead of merely a break in the planting as commonly allows passage to a walk—an opening over which the hedge is carried just as a high wall is carried straight along, regardless of entrance through it. Outside of this hedge masses of shrubbery may quite disguise the round temple form, if so desired; or the entire form may be revealed as an axial feature at the end of a long path, perhaps. It is capable of several

interpretations as far as these details are concerned; and thus interpreted there is nothing faintly akin to the horror of the old rockery anywhere discoverable.

It is not invariably necessary to resort to the pyramid of stones, however, for these separate rock pockets which provide just the special conditions that plants from the opposite ends of the earth require. Sunken rockeries are sometimes built, with steps leading down into them and planting at the top of the banks that hides them completely; a circular form may be used also, either with or without a mound at the center, around which the walk passes. Such a one sometimes is made wholly on the surface of the ground, and sometimes is wholly lowered into the ground; in either case a small goldfish basin or bird pool at the center will increase the interest, especially to the average visitor who is not a botanist or collector. There is in fact no rule against making even the simplest rockery, built for the sole purpose of growing special plants, as attractive as ingenuity and imagination permit; but even when it is thus handled, remember that it is still a showcase, and as such, entitled to the special distinction (if it seems more considerate to put it this way) of a place by itself. It is a wholly unnatural feature;

never attempt to naturalize it, and never attempt to bring it into the *ensemble*. Neither can be done nor even attempted without disaster all the way around.

In planting either a rock garden, a wall garden, or a rockery always bear in mind that exposure is of the greatest importance. Never put plants on a bank exposed to the south if they belong to the list of those succeeding under northern exposure. This often accounts for a specimen remaining alive only as long as it takes to plant it. For though it may seem only a small point it is vital—as will appear readily enough when one recalls how long a patch of snow will last on the north side of a hedge or a fence or mass of shrubs, as compared to one on the south side. The continuous direct rays of the sun are as fatal to those plants that have been evolved in shade or part shade as shade and its accompanying chill are to the sun-loving plants; and this is not altogether on account of the heat involved but because of all the accompanying phenomena.

PLANTS FOR ROCK AND WALL GARDENS

NORTHERN EXPOSURE OR IN SHADE

Prostrate and Carpet-like

Starry grasswort	<i>Cerastium arvense</i>	White
Woolly grasswort	<i>Cerastium tomentosum</i>	"
Bugle weed	<i>Ajuga reptans</i>	Blue

Moss pink	<i>Phlox subulata</i>	White, pink, mauve
Arenaria	<i>Arenaria montana</i>	White
Maiden pink	<i>Dianthus deltoides</i>	Red
Ground-hele	<i>Veronica officinalis</i>	Pale blue

Erect

Saxifrage	<i>Saxifraga Virginiensis</i>	White	9 ins.
Cuckoo flower	<i>Cardamine pratensis</i>	Pink, white	20 "
Thrift	<i>Armeria maritima</i>	Pink	12 "
Red baneberry	<i>Actea spicata, rubra</i>	White	20 "
White baneberry	<i>Actea alba</i>	White	20 "
Wild Columbine	<i>Aquilegia Canadensis</i>	Red, yellow	20 "
Snakeroot	<i>Asarum Canadense</i>	Brown	5 "
Harebell	<i>Campanula rotundifolia</i>	Blue	12 "
Bishop's cap	<i>Mitella diphylla</i>	White	6 "
Douglas's Clematis	<i>Clematis Douglasii</i>	Lavender	15 "
Pasque flower	<i>Anemone patens</i>	Lavender-pink	6 "

SOUTHERN EXPOSURE OR IN SUNLIGHT

Prostrate and Carpet-like

Hoary speedwell	<i>Veronica alpina</i>	Blue or violet
Creeping speedwell	<i>Veronica repens</i>	Bluish white
Wall pepper	<i>Sedum acre</i>	Yellow
Live-forever	<i>Sedum ternatum</i>	White
Stone-crop	<i>Sedum hybridum</i>	Yellow
House-leek	<i>Sempervivum tectorum</i>	Pale red
Rock cress	<i>Arabis albida</i>	White
Dryas	<i>Dryas octopetala</i>	White

Erect

Bellflower	<i>Campanula Carpatica</i>	Blue	8 ins.
"	<i>Campanula rhomboidalis</i>		10 "
Butterfly weed	<i>Asclepias tuberosa</i>	Orange	18 "
Barrenwort	<i>Epimedium macranthum</i>	White or red	12 "
"	<i>Epimedium Musschianum</i>	Yellow	12 "
False miterwort	<i>Tiarella cordifolia</i>	White	12 "
Tunica	<i>Tunica saxifraga</i>	Pink	12 "
Madwort	<i>Alyssum saxatile</i>	Yellow	12 "
Evergreen candytuft	<i>Iberis sempervirens</i>	White	6 "

“Here is the place where Loveliness keeps house,
Between the river and the wooded hills,
Within a valley where the Springtime spills
Her firstling wind-flowers under blossoming boughs;
Where Summer sits braiding her warm, white brows
With bramble roses, and where Autumn fills
Her lap with asters, and old Winter frills
With crimson haw and hip his snowy blouse.”
—“*Here is the Place . . .*”—MADISON CAWEIN.

CHAPTER XVIII

WILD GARDENS AND WILD FLOWERS

THERE is perhaps no better definition of the wild garden than the simple statement that it reproduces Nature with her own materials. As distinguished from the naturalistic garden, it does not entertain hybrid forms nor improved forms of any plant, nor does it admit—in its rigid interpretation—plants from another clime. It is composed wholly of aboriginal species and kinds, in other words; hence it is the one garden that, once established, may be left to itself—save for such elimination of weeds as all gardens must have, occasionally. In one way, it may be said to seize the materials at hand and

reject all others; but this would presuppose material at hand and would imply that a wild garden can only be created where conditions generally are wild.

Of course this is not absolutely true, for a kind of wild garden may be set up almost anywhere; that is, wild flowers may be domesticated and induced to grow in a bricked-in, shut-in, city plot. But note that this is not after all, a wild garden, but rather a wild-flower garden—which is a distinction expressing a great difference. For a wild garden reproduces the spirit of the wilderness in every part and is not, as a matter of fact, dependent upon its flowers for its effect—though these must, of course, bear out the concept and harmonize with it. And thus a wild garden can have no design, as such, and must happen by chance to a large degree. Close study of wild groupings and of possible effects by means of combinations as these occur in a natural state, together with an unusually deft hand for imitation, are the essentials to success in the creation of a true wild garden; and further than to point this out and to offer a few general suggestions I cannot pretend to go in helping (on paper) to the realization of this type of garden.

Many cultivated plants will run wild, as the

saying is, if they are given a chance in congenial environment. That is, they will forge ahead and crowd out every other kind that is less adapted to the situation and less aggressive, and will multiply until they finally take complete possession of the space that they covet because of its congeniality. Yet this does not fit these plants for use in the wild garden any more than it makes them truly wild; for it is an unquestionable fact that plants long cultivated have taken on an elusive something—comparable perhaps with the finish that culture brings to man—that sets them out of harmony with wilderness conditions in a subtler way than the mere association of ideas could involve.

By which it appears that there is more to this subject of wild flowers and wild gardens than at first meets the consciousness; which makes it the more interesting and worth looking into. But it is something which each must find out for himself, after a certain point is reached; so without going further along this line I will only say that the wild garden, as a definite concept in garden making, involves a certain sense of lawlessness and struggle in the vegetation gracing it—not struggle carried to the point of positive destruction as in a state of nature, but stopping just short of this. The bountiful and aggres-

sive growth of the plants in a wild garden is held just within bounds by the gardener, as a matter of fact, who sets limits and maintains fair play by force of his authority, in order that he may enjoy a greater number of kinds assembled together than would otherwise be possible within the prescribed limits. That this is what the gardener does in any kind of garden—no more, no less—simply indicates further that it is the way in which these plants are assembled, quite as much as the kinds of plants, that we have to consider. Their associations are equal in importance to themselves, and the disposition and character of paths, trees, shrubs, stones and every possible element must be in harmony—the whole conveying a sense of solitude and really virgin retreat.

It is manifestly impossible to hypothesize all the circumstances, places or conditions that will invite the development of a wild garden. Such conditions exist sometimes in the midst of seemingly the most uncordial spots and again they are absent when it seems perfectly logical to expect to find them. In general I may say that very often it is the place that seems pretty hopeless from the gardening viewpoint, that may be properly devoted to the creation of a wild garden. Sometimes it is the grade irregularities

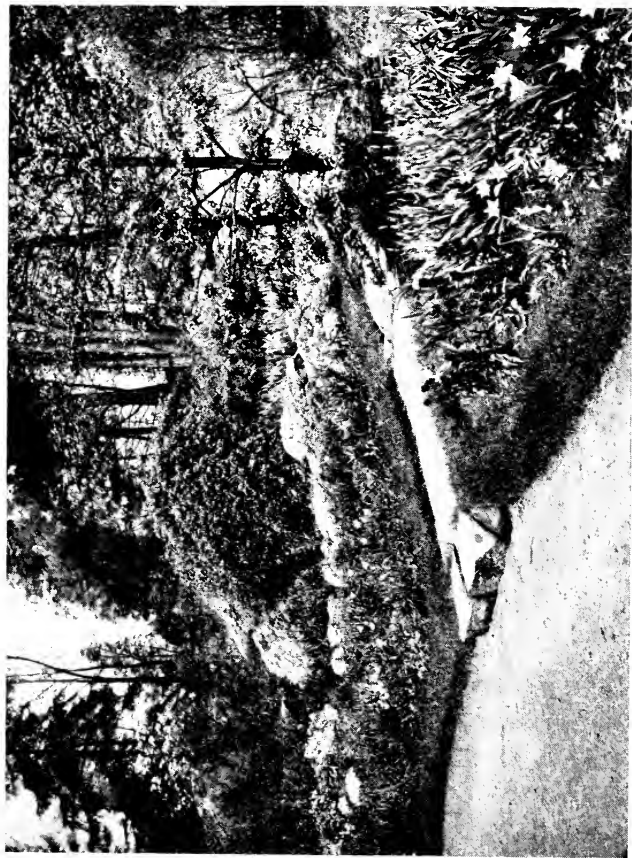
that discourage endeavor, sometimes rough ground configuration generally and perhaps the presence of large trees and of undergrowth. Building plots at the edge of woods or sidling down into a gully may be suited to nothing else but a wild garden—probably will be; but this is not to say that now and then a plot that is neither of these may not have in and about it other elements that make it congenial ground for this treatment.

One must judge for himself; always with the ideal of accepting Nature's suggestion however, and never with the purpose of forcing the issue. Certainly all connection with tamed or cultivated lands must be avoided; and certainly there must be no hint whatsoever, within a wild garden, of any of man's usual enterprises. If these two conditions can be met *anywhere*, the wild garden will not be an anachronism; but if, by reason of any element in the surroundings of a place, such absolute sequestration is out of the question, the wild garden should be abandoned for a concept in harmony with unyielding conditions.

This is no more than is true of the rock garden, or of a water garden on naturalistic lines. It is indeed the one thought reiterated perhaps to a wearisome degree, in every chapter—that there

must be harmony between the garden concept and all outlying conditions, *unless* outlying conditions can be obliterated. And this is nothing more nor less, of course, than recognizing the moods of nature and of earth, and adopting them by adapting to them. Where it is possible to run counter to outside conditions by shutting them out completely—and desirable perhaps, as a walled garden in the heart of city congestion—it may of course be done; and with results that count above all others sometimes, in the way of refreshment and solace. But as we are here concerned with the typical rather than the exceptional, I must not only rigidly assert the limitations, but presuppose them; which I can do in a broad sense only by demanding generally harmonious conditions or such seclusion as I have described.

Starting with the materials which are at hand—assuming that the site and conditions invite the wild garden—the whole procedure becomes an enterprise of almost moment by moment inspiration; for one thing suggests another, and these in turn reveal possibilities of still another, and so it goes. I am not going to deal so much with the entirety, therefore, as with the possible materials which will compose it; the trees and shrubs, the earth corrugations, the stones and



Here a bit planted with garden flowers in naturalistic fashion furnishes the transition from conventional surroundings to a wild garden beyond the trees

stumps, mosses, lichens, and the flowers—last, but neither least nor most.

Of trees there must be enough for partial shade at least, and if it is wholly shady it will be no disadvantage. Given a site otherwise suitable, minus trees, the first thing to do therefore will be to introduce these; not a great number perhaps, but enough to shelter and seclude a portion of the space. And these trees will necessarily be native kinds, and of these not a wide assortment. Mingled together trees grow in the woods, to be sure; yet within small space there will be only two large growing kinds perhaps, with some lower growth, such as dogwood beneath them. Keep to this standard, using any trees native to the section.

Of wide distribution are maples, beeches, the ash, the oak, the hickory, the sassafras, the elm, the tulip tree, the wild cherry, plum, thorn, and birch; and any one of these may be chosen therefore. Inasmuch as the wild cherry, the sassafras, and certain of the birches are perhaps less esteemed as landscape material, these are less often seen in artificial plantings and are consequently in closer association with wilderness in our thought; so choice might well fall on one or two of these. Wild plum in a suitable variety and thorn will serve as underplanting, prefer-

ably placed to give the effect of being pushed back from the central glade or more open space.

Trees cannot be set out however until the various natural advantages and disadvantages of the land itself have been considered and their treatment decided upon. Where rough ground exists the best course usually is to let everything alone as nearly as possible, as in the natural rock garden. But here also, as in the rock garden, it is sometimes possible and highly desirable to emphasize what actually is only a very slight feature, thus turning it into a striking one.

Thus a bank may be created where only a slight dip exists; or a tree growing picturesquely away from the perpendicular through some mischance may be brought into prominence by stripping away growth that obscures its peculiarity. A stump offers opportunity for evolving sometimes a seat, sometimes a natural bird basin; a dead tree trunk standing invites a native vine like the clematis of our woods, or the wild grape or woodbine or bitter-sweet—or fallen it may become a chief feature by disposing it a little differently if need be, to make it a seat or to bridge a depression. The suggestions lying in the place itself and in such

objects as may be found therein alone can determine these details, obviously.

Stones scattered about may be assembled, not to form a rockery by any means, but to conform to such a general scheme as a bird basin or a seat or a campfire site may involve. For although the wild garden should be eloquent of solitude and have the virginal quality I have suggested, it is of course understood that this remains to it because of the finished artistry with which such things as seats and shelters and bird basins are developed and introduced and not because they are omitted. It should not lack anything that may enhance its entertaining charm; but it must remain wild in aspect notwithstanding. It is the use of materials that are found on the spot that helps largely in this; but unless they are used with such cleverness of imitation that it hides cleverness and allays suspicion of imitation, they will still fall short of producing the desired result.

Under most conditions conceivable I would not advise such a thing as a retaining wall of stone to hold up a bank in a wild garden. Yet if this will improve a situation and if it can be built so naturalistically that it will take on the appearance of just a mass of rocks pushed up from below, against which the earth has seeped

in in the slow processes of time, there can be no objection to using it. Of course it will not be of the type seen in other kinds of places; and if a tree of crooked aspect can be planted in a crevice of it, so much the better.

The use of stone is an art in itself—particularly the use of it to produce natural effects. Without going into the kinds which it may be desirable to assemble together and the kinds which should be excluded, it is enough to say that stones from below the surface of the ground are not usually weathered to the degree necessary for the best results. Select, therefore, from on top of the ground, or from a creek bed; and consider color combinations and the delicate tones which fungi bring to them more even than you consider form. There will always be found a way to get stones together, whatever their form; but nothing will alter the raw effect of stones that have not been exposed to the elements. And of course seats or bird basins in the wild garden ought never to be of artificial material. Make these things of stones or of stumps or fallen trees, as suggested—or else do not have them at all.

For the wild garden it is not possible to determine as exactly as a planting plan involves, the position of plants—therefore it is practically

impossible to make such a plan, or to work to it if it is made. But the space can be laid off in a general way, according to exposure, shade, and soil conditions or character; and on these plottings it is well to write in the kind of plants that may be used. For example, none of the heath family—of which rhododendrons, laurel, the huckleberries and azaleas are familiar members—like an alkali or limestone soil; certain other wild flowers prefer cool roots but sun on their heads; still another lot will have none of it at all, while there are many who rejoice in nothing save the driest and hottest places available. Plot the garden space out and mark it with just these key words—"shade," "hot sun," "part shade," "lime," "acid," "wet." Then you are ready to begin selecting either from the catalogues or from the woods themselves, the plants that are to go into it.

If you go to the woods, always exercise restraint in gathering material, unless they are woods that will soon be obliterated altogether. From such localities there seems justification for regarding it as a rescue of doomed plants instead of wanton disregard of forest law to take as many as possible into the shelter of a wild garden—but certainly not from anywhere else. Either buy from the specialists who grow this

class of material, or else take only a specimen here and there, and then with due regard to doing the ones left no injury. For although the wild flowers that will naturalize in the garden are sturdy and sometimes rampant growers, it is true that the choicest are elusive and highly susceptible to injury and that, through the carelessness of collectors who injure perhaps an entire stand in taking a specimen, many are rapidly becoming extinct.

It is possible and of course highly desirable to carry bloom throughout the spring, summer, and autumn with just wild flowers, although we do commonly associate them with the vernal season especially. This is perhaps because the first comers find us more eager for signs of awakening vegetation, while later on so much engages attention there is no time for all. Of the plants given, the season of bloom is given also, together with the preference for sun or shade—where such preference exists—but I have made no special distinctions as to soil, since all except the heaths will accommodate themselves usually to ordinary conditions below ground.

Of these it is understood that leaf mold such as they dwell in when growing wild, formed by the annual deposit on the ground of the leaves of the forest—which also serve as a general

mulch during the winter to keep out the cold, and a root mulch during the summer to keep out the heat from the roots—is their requirement, with never a bit of lime nor of commercial fertilizer used around them. To superinduce the acid soil which they revel in, the waste from a cider press is sometimes resorted to, and with a high degree of success apparently. This cannot be used on the surface of the ground of course, but may be turned in as manure is, and well covered; and the plants set out afterward.

PLANTS FOR THE WILD GARDEN

SPRING AND EARLY SUMMER FLOWERS FOR SHADE

Adder's tongue	<i>Erythronium Americanum</i>	Yellow	6 inches
Anemone (wood)	<i>Anemone quinquefolia</i>	White	4 "
Arbutus	<i>Epigæa repens</i>	Pink	Prostrate
Bellwort (or	<i>Uvularia grandiflora</i>	Yellowish	15 inches
"Wild oats")	<i>Uvularia perfoliata</i>	Pale yellow	10 "
Bloodroot	<i>Sanguinaria Canadensis</i>	Pinkish white	8 "
Bunchberry	<i>Cornus Canadensis</i>	White	8 "
Clintonia	<i>Clintonia borealis</i>	Green-yellow	2 feet
False Solomon's seal	<i>Smilacina racemosa</i>	Greenish white	3 "
Foamflower	<i>Tiarella cordifolia</i>	White	12 inches
Golden seal	<i>Hydrastis Canadensis</i>	Greenish-white	10 "
Ground lily (or	<i>Trillium erectum</i>	Purple	12 "
Wake-robin)	<i>Trillium grandiflorum</i>	White	12 "
Jack-in-the-pulpit	<i>Arisæma triphyllum</i>	Purplish green	12 "
Liverleaf	<i>Hepatica triloba</i>	Lavender	6 "
May apple	<i>Podophyllum peltatum</i>	White	18 "
Milkwort	<i>Polygala paucifolia</i>	Rose-purple	6 "
Mitrewort (fringed)	<i>Mitella diphylla</i>	White	6 "
Pappoose root	<i>Caulophyllum thalictroides</i>	Yellow-green	2 feet
Partridge berry	<i>Mitchella repens</i>	Pinkish white	Trailing
Pipsissewa	<i>Chimaphila maculata</i>	White	6 inches
Rue	<i>Thalictrum dioicum</i>	Purplish	2 feet

Saxifrage	<i>Saxifraga Virginensis</i>	White	12 inches
Shooting star	<i>Dodocatheon Media</i>	Purplish	18 "
Shortia	<i>Shortia galacifolia</i>	White	6 "
Snakeroot (Canada)	<i>Asarum Canadense</i>	Brown	Low
Snakeroot (Seneca)	<i>Polygala Senega</i>	White	12 inches
Spring beauty	<i>Claytonia Virginica</i>	Rose	Low
Toothwort	<i>Dentaria diphylla</i>	White	10 inches
Violet (blue)	<i>Viola cucullata</i>	Blue-purple	10 "
Violet (downy)	<i>Viola pubescens</i>	Yellow	10 "
Violet (wild)	<i>Viola Canadensis</i>	Purplish white	12 "

LATE SUMMER AND AUTUMN FLOWERS FOR SHADE

Aster (blue)	<i>Aster cordifolius</i>	Blue	4 feet, bushy
Aster (white)	<i>Aster divaricatus</i>	White	3 feet, slender
Aster (panicled)	<i>Aster paniculatus</i>	White, purple	3-6 feet
Aster (smooth)	<i>Aster laevis</i>	Blue-violet	2-4 feet, slender
Baneberry (red)	<i>Actæa spicata, rubra</i>	White	2 feet
Baneberry	<i>Actæa alba</i>	White	18 inches
Bugbane	<i>Cimicifuga racemosa</i>	White	3-8 feet
Coltsfoot	<i>Galax aphylla</i>	White	12 inches
Cowslip (Virginia)	<i>Mertensia Virginica</i>	Purple	2 feet
Dog fennel	<i>Aster ericoides</i>	White	3 feet, bushy
Gentian (closed)	<i>Gentiana Andrewsii</i>	Blue	15 inches
Solomon's seal	<i>Polygonatum biflorum</i>	Greenish	12 "
Twisted-stalk	<i>Streptopus roseus</i>	Rose-purple	18 "

SPRING AND EARLY SUMMER FLOWERS FOR SUNLIGHT

Dutchman's breeches	<i>Dicentra cucullaria</i>	White	8 inches
Iris (dwarf)	<i>Iris verna</i>	Violet-blue	6 "
Iris (crested)	<i>Iris cristata</i>	Blue-white	3 "
Lily (meadow)	<i>Lilium Canadense</i>	Yellow-red	2 to 4 feet
Lupine	<i>Lupinus perennis</i>	Blue	1 " 2 "
Pink-root	<i>Spigelia marilandica</i>	Red	1 " 2 "
Squirrel corn	<i>Dicentra Canadensis</i>	Green-white	8 inches

LATE SUMMER AND AUTUMN FLOWERS FOR SUNLIGHT

Bedstraw	<i>Galium boreale</i>	White	1 to 3 feet
Butterfly-weed	<i>Asclepias tuberosa</i>	Orange	2 feet
Button snake-root	<i>Liatris scariosa</i>	Rose-purple	2 to 4 feet
Cardinal flower	<i>Lobelia cardinalis</i>	Vivid red	2 " 4 "
Compass plant	<i>Silphium perfoliatum</i>	Yellow	5 " 7 "
Goldenrod	<i>Solidago Canadensis</i>	Yellow	4 feet

Goldenrod	<i>Solidago nemoralis</i>	Yellow	2 to 3 feet
Goldenrod (fragrant)	<i>Solidago odora</i>	Yellow	3 feet
Great lobelia	<i>Lobelia siphilitica</i>	Light blue	2 to 4 feet
Joe Pye weed	<i>Eupatorium purpureum</i>	Purple	4 " 10 "
Lily (Turk's cap)	<i>Lilium superbum</i>	Orange-red	3 " 6 "
Lily (wood)	<i>Lilium Philadelphicum</i>	Red-orange	2 feet
Milkweed (swamp)	<i>Asclepias incarnata</i>	Rose-purple	2 " 3 "
Oswego tea	<i>Monarda didyma</i>	Scarlet	2 " 3 "

SHRUBS

Allegheny plum	<i>Prunus Allegheniensis</i>	Any soil	12 to 15 feet
Appalachian tea	<i>Viburnum cassinoides</i>	Any soil	6 " 12 "
Azalea (smooth)	<i>Azalea arborescens</i>	Part shade	8 " 20 "
Azalea (clammy)	<i>Azalea viscosa</i>	Moist places	4 " 8 "
Bayberry	<i>Myrica cerifera</i>	Sandy soil	4 feet
Great laurel	<i>Rhododendron maximum</i>	Shade	6 to 30 feet
Hazelnut	<i>Corylus Americana</i>	Shade or sun	3 " 8 "
Laurel	<i>Kalmia latifolia</i>	Shade	4 " 10 "
Red osier	<i>Cornus stolonifera</i>	Shade or sun	8 feet
Rhodora	<i>Rhododendron Canadense</i>	Moist places	3 "
Shadbush	<i>Amelanchier Botryapium</i>	Shade or sun	12 to 15 feet
Sheep-berry	<i>Viburnum Lentago</i>	Part shade	20 " 30 "
Witch-hazel	<i>Hamamelis Virginiana</i>	Moist, shade	25 feet

“Prayer and praise in a country home,
Honey and fruit; a man might come,
Fed on such meats, to walk abroad,
And in his orchard talk with God.”
—*Of an Orchard*—KATHARINE TYNAN.

CHAPTER XIX

GARDEN FRUITS OF TREE AND BUSH

THERE are many times good and sufficient reasons why a garden shall not be planned to produce vegetables, notwithstanding all there is to be said of obligations and responsibilities—and this I am perfectly willing to grant. But there is never any reason why even the tiniest garden shall be unproductive in the matter of fruit—and nothing that can be planted yields such generous returns on the money, time, and space devoted to it. Furthermore, no fruit that can be had from the markets ever equals in quality the fruit that may be grown in the private garden, for the simple reason that commercial growers never raise the choicest varieties. It is with fruits, when grown commercially, as with vegetables; certain requirements

must be met, owing to the exigencies of shipping and storing and what not, and flavor and quality must be sacrificed to these else the raising of fruit for sale would not be profitable. It is no exaggeration therefore to say that no one knows the true flavor of a really fine apple or peach who has never picked one of the superlative varieties from the stem and eaten it on the spot!

Of all the fruits of the northern hemisphere the apple is justly the most popular, since it is the most abundant, most permanent, and most useful to the greatest number. An apple has two-thirds as much nutriment as a potato; and down to the very last bit of skin every one is usable, for even windfalls and imperfect specimens will yield a delicious beverage and as fine a vinegar as can be produced. Apples the year around are possible, by selecting the right varieties; and this is true of even the small garden, since the dwarfed trees may be used in these. Fortunately the nurserymen of this country have learned how to grow these dwarf forms—importation being at present prohibited; and they will of course continue to grow them, for the demand for them grows apace.

Standard apple trees require to be set from thirty-five to forty feet apart; that is, a stand-

ard tree's spread is estimated to be that at maturity. It will occupy, in other words, about one thousand square feet. As a dwarf tree occupies but fifty square feet—they require to be set no more than eight feet apart, hence this amount is taken as the diameter of their circle—it is apparent that twenty dwarfs might be set in the space of a single standard. We may reduce this twenty per cent to allow for waste space, and set the number at sixteen. Depending upon the variety, the tree's age, and the season, standard apple trees yield from twenty to thirty-five bushels of apples a year, on the average. Dwarf trees, well tended and brought up to their maximum, will produce when mature from two to three or more bushels annually. Therefore it appears there is not only the advantage of having several varieties but actually of quantity of fruit, favoring the use of dwarfs. The actual saving in space is not, moreover, shown by these figures, for dwarf trees may be planted in rows and in restricted areas where a standard tree could not be used at all. Indeed they are useful as shrubbery, if no other space is available in which to put them. But remember always that they require proper care and pruning and spraying.

The only fruits available in dwarf form are

apples and pears. But the other tree fruits are not of such large growth as the standard apple tree, even the largest—the cherry—taking on more the character of an ornamental tree in those varieties which attain any considerable size. This, in fact, may very well be used in place of a purely ornamental tree for shade, since it will thrive without the special attention other fruiting trees need. And inasmuch as cherries are increasingly difficult to obtain in quantity from market, of late years, and as they make really splendid trees as they age, I would most certainly advise planting at least one of the old-fashioned pie cherry trees, invariably.

It is with the rarer fruits, however, that the greatest personal rewards lie, for the private garden. Peaches are of course obtainable in market, but never in choice varieties. Plums sometimes appear, but of doubtful quality; nectarines and apricots are unknown save here and there—yet how delicious they are, and how easily grown too, as a matter of fact! Wherever peaches are hardy, both apricots and nectarines are; but as they also are naturally early bloomers, the great difficulty in growing them is the premature start that they make under our precocious springs. The trees themselves are not killed, but annually their fruit buds are; for

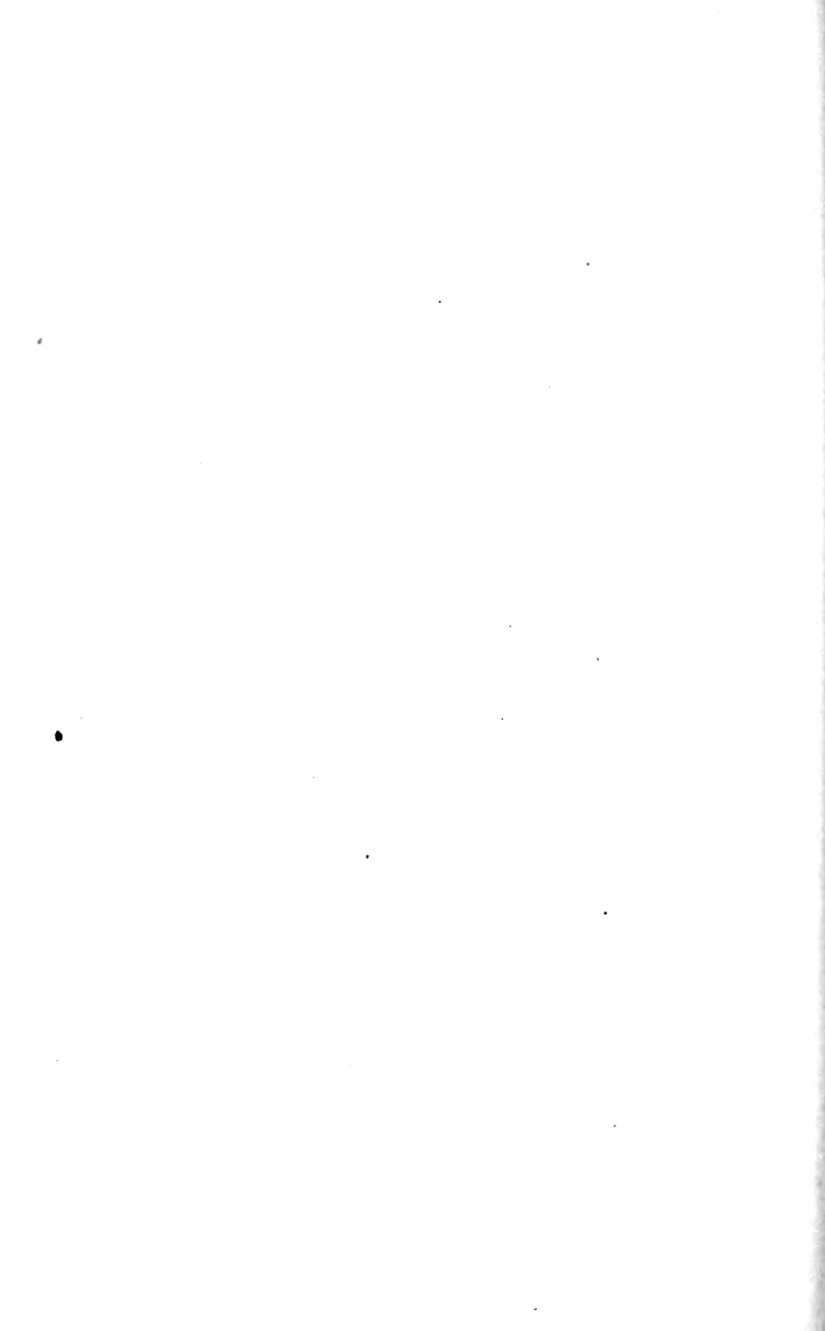
starting to swell the instant the warm sun of late winter shines on them, they are nipped by the frost of early spring.

The only means of overcoming this general tendency is to select a site for trees of this species which is unfavorable to the very early development of their flower buds. It is never the warm corners that they should have, with full sun, but the chilly places and northern exposure. This does not mean of course that full exposure to the roughest winds of winter is proper, but it does mean that the tendency to coddle must be inhibited. Perhaps the best place for either the apricot or the nectarine is trained in the old-world fashion on a garden wall or the side of a building. But this should never be of southern exposure. Rather let it be west or north, with protective branches of evergreens set up, if it is the latter, to screen it from the strongest of winter winds—or even a screen planting of evergreens inclosing the site at some distance to protect it from hard winds at any time. This is indeed a wise protection of all fruits of the stone class—save the cherries, which are hardy enough to endure anything.

Peaches, apricots, and nectarines require practically the same soil, being close relatives; this should preferably be light and sandy and



As the twig is bent the tree is inclined whatever it may be—wherefore a fruit tree growing on a wall is easy to acquire providing a proper start is made early in its life



not over enriched. In fact strong and rich lands are a disadvantage, since they promote a luxuriant growth of wood and top and the strength of the tree goes into this at the expense of fruit. Not much manure is to be applied, therefore, at any time; but always potash in the form of hardwood ashes, and phosphate in the form of ground bone, these two elements being the special foods which build up strong wood and fruit and nourish flowers.

The nectarine is a smooth-skinned fruit resembling a plum very much more—to the layman—than it resembles a peach. It is of the latter species however, regardless of appearances—for nectarines have been grown from peach seeds and peaches from nectarines through the process scientifically distinguished as bud variation; which is proof conclusive. Its flesh is yellowish green, very tender and of sweet, rich flavor; and there are of course different varieties as of other fruits. Like the peach these are early and late, the former ripening in August usually while the latter are perhaps ten days to a fortnight later. Apricots are one of the most decorative of trees in flower, one variety being grown in Japan—their native land—just for its bloom. They like a soil that is a little heavier than the peach and nectarine

thrive on, but otherwise their requirements are the same. The fruit, familiar enough in its dried form, is deliciously sweet and delicate when eaten from the tree. It comes moreover between the cherries and the peaches, when garden fruit is scarce.

Of all fruits in the world the quince is to me the most beautiful in bloom—and one of the loveliest in fruit and one of the most delicious, when properly handled. One or two quince bushes backing a shrubbery border—or as many as there may be space for—furnish a display of bloom more gorgeous than anything else of the same size or same period; and indeed more gorgeous than almost any shrub, at any time. Great single pink blossoms like wild roses, covering every branch until they look more like huge bouquets than like shrubs or bushes, distinguish this from everything else; and the only thing comparable to a quince bush in bloom is an apple tree—or perhaps a flowering dogwood. The fruit is of course quite impossible to eat in the raw state; but as it is one of the most delicious of all when properly cooked (and that means cooked *slowly* until it is the color of rich port wine) its failure to tempt from the tree may very well be regarded as an advantage—especially if the situation is exposed!

Fruit trees benefit by cultivation and attention quite as positively as do vegetables or flowers, even though they will grow after a fashion, and bear fruit, without it. With the dwarfed trees it is essential, since the severe pruning to which these are subjected during their early years—and annually as well, since pruning alone will keep them down to the proper buds and branches to insure a good yield of fruit—depletes their vitality, and only studied feeding will overcome this. Where it is possible to place fruit trees along the boundary of the vegetable garden, preferably on the north side in order that they shall not deprive the vegetables of full sun, this is an excellent place for them; for it makes very little extra tillage necessary, since they benefit by all that is done for the vegetables, as well as by the fertilizer applied to the garden space.

The bush fruits lend themselves to wall or fence training in a way that is almost never taken advantage of, unfortunately. By allowing space for them flat against the garden wall or a boundary fence, a great number may be accommodated without interfering in the least with anything else. Blackberries and raspberries are naturally in need of support, and their long canes are never better supported than

when fastened against the flat surface of wall or fence. This also keeps them from reaching out in the exasperating fashion they have, to hook themselves upon the unwary passer-by; and as the plants must be gone over annually to remove old wood, and to take out weak new wood—leaving about six canes to a plant—the labor of fastening the branches up is really not to be considered as an extra. They must be handled anyway.

Currants and gooseberries may be grown between the rows of fruit trees in a garden made up wholly of fruits; or they too may take their place along a boundary. Currants do better in shade, hence are especially suited to underplanting between trees. Gooseberries like partial shade, but do better if this falls on them during the hottest part of the day from a building rather than from trees; hence they are not quite as well for planting in the midst of trees, though it may be done. Both of these fruits prefer a deep, rich, moist, cool soil; and to insure this coolness at their roots it is always well to mulch them during the summer with grass clippings, especially in the warmer sections.

Grapes should always be used as abundantly as possible, for in addition to being a highly valuable food, they furnish one of the most or-

namental shade plants that there is, properly supported on arbor or trellis. And they may be grown of course where nothing else finds room, if space is so restricted; give a vine root-hold and a porch or vertical trellis to climb on, and it will do the rest.

Each section of the country has of course varieties of every fruit that for one reason or another are preferred there. To advise for all sections therefore is obviously impossible; but I have chosen a few of each of the standard fruits which are of finest quality where they will grow, as an example of the choice I would suggest. In any section it is always well to have a list gone over by the nearest Experiment Station, in order to be sure of its suitability for that particular region; but always explain, in requesting them to do this, that it is *quality* you are seeking and not varieties which will excel in productiveness alone.

CHOICE VARIETIES OF FRUITS

APPLES

The soil in which apples do their best is inclined towards clay, but in the private garden practically any good average soil will be perfectly all right. A hillside provides desirable conditions for an orchard, usually, owing to the better drainage. Apples must always be sprayed to keep them in good condition.

<i>Summer Varieties</i>	<i>Fall Varieties</i>	<i>Winter Varieties</i>
Red Astrachan	Duchess of Oldenburg	Winter Banana
Yellow Transparent	Gravenstein	Stayman's Winesap
Early Harvest	McIntosh Red	R. I. Greening
		Northern Spy
		King

PEARS

A rather hard clay soil suits pears better than any other, as it is desirable for them to make their growth slowly in order to insure strong fiber in their wood. Pears require spraying also.

<i>Early</i>	<i>Medium</i>	<i>Late</i>
Wilder	Seckel	Anjou
Clapp's Favorite		Winter Nelis

PEACHES

Light sandy soil is best suited to the peach and to its close relatives, the Apricot and Nectarine. Spraying is necessary to keep these in health and insure perfect fruit.

<i>Early</i>	<i>Medium</i>	<i>Late</i>
Greensboro	Globe	Stump the World
Belle of Georgia	Early Rivers	Stevens Rareripe

APRICOTS

Alberge de Montgamet	Moorpark
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NECTARINES

Early Violet	Elruge
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CHERRIES

Sweet cherries prefer a light, rather dry, but retentive soil. Sour cherries like more moisture and will do well in the heavier land.

<i>Sour</i>	<i>Sweet</i>
Montmorency	Robert's Redheart
English Morello	Windsor

PLUMS

Practically any good soil suits the plum, though if it inclines toward heavy it may be more favorable. They produce larger fruit, it is claimed, when mulched as they like moisture retained at their roots. The Japanese varieties are inferior in flavor though very prolific. For the private garden therefore I do not advise them.

<i>Purple</i>	<i>Red</i>	<i>Yellow</i>
Apple	Bradshaw	Imperial Gage
Fellenburg	Lombard	
Damson		

QUINCES

These should be sprayed the same as apples and pears, as the same insects attack them, causing wormy or distorted fruit. Any ordinary soil suits them.

Meech's Prolific	Champion
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CURRANTS

<i>Red</i>	<i>White</i>	<i>Black</i>
Fay's Prolific	White Grape	Black Naples
Perfection		

GOOSEBERRIES

These require high and abundant fertilizing.

Downing	Josselyn	Red Jacket
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RASPBERRIES

<i>Red</i>	<i>Black</i>
St. Regis (everbearing)	Plum Farmer

BLACKBERRIES

Eldorado, Early Harvest; also the Lucretia Dewberry, the Himalaya berry and the Loganberry.

GRAPES

Any good soil suits the grape, but extra feeding and mulch will improve it greatly—especially if water is supplied at the roots.

Red-purple

Lindley

Brighton

Blue-black

Worden

White

Niagara

“The sturdy seedling with arched body comes,
Shouldering its way and shedding the earth crumbs.”
—*Putting in the Seed*—ROBERT FROST.

“Could I but show to you the cabbages which mine own hands have planted in my garden at Salona, you would no longer urge me to relinquish the enjoyment of happiness for the pursuit of power.”—*Diocletian's answer to Maximian when urged to resume the Imperial purple.*

“He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.”—*The Zend-Avesta*—ZOROASTER.

CHAPTER XX

THE VEGETABLE GARDEN

AND here at the last we come to the first kind of garden that was made—whether we speak in the figurative language which places stern necessity just outside the gates of Eden and consequent upon a certain lady's misadventure with an apple, or in the more prosaic terms of anthropology. For man planted and tended food plants ages and ages before he dreamed of troubling himself with tending a rose—or even

an apple tree or a berry bush. Apples grew wild on many a tree, and berries on wild bushes, and were his for the picking; but turnips and cabbages and all that sort of thing had to be watched over and guarded from prowling beasts, as well as from over-admiring neighbors as the tribe increased. So it was with such as these, if not with these themselves, that he first busied himself.

Speaking of which it is perhaps of interest, in connection with the serious consideration of the vegetable garden which befits our time and generation, to note that the aboriginal form of the cabbage—*brassica oleracea*—which grows wild on the sea cliffs of western and southern Europe and the chalk cliffs of the English Channel, and which is the progenitor of all forms of cabbage, cauliflower, kale, and sprouts, was without doubt an important article of food in the diet of the barbarians first occupying these regions; for “when history begins it had already been transferred to cultivated grounds and had begun to produce dense rosettes or heads of leaves.”

This great plant family—*Brassica*—is indigenous indeed throughout the temperate regions of the old world, and includes all the mustards and the turnips as well as the cabbages;



In color and form the cabbage is sufficiently decorative to command attention even if it were not of lineage so ancient that most other things in the world are mere upstarts by comparison

hence it is a logical inference that accords it patriarchal honors among all the tribes that have been drawn upon to contribute to our food supply—whether we individually cherish a taste for it in any of its forms, or not. And it is further one of the most important vegetable families of the present; and will always so remain beyond peradventure.

The introduction of the potato, this hemisphere's great sixteenth-century contribution to the world's food sources, did of course reduce the almost complete dependence of Europeans upon the turnip as a staple of their own diet, however much they still required it for their stock. Yet while John Winthrop was Governor of the New England Colony it was the latter that still held first place. And as a matter of fact the potato did not come into general use until about 1800, in the northern part of the world, at any rate. Native to South America, as is the sweet potato also, it is surely one of the whims of fate that brought it to these shores by way of the Spanish adventurers, who first took both kinds home to Spain! And "Spanish potatoes" they were, these good white potatoes loved by all the world to-day, for a long time; and for long were a "despised root" according to one old authority.

Do I digress? Seemingly—but deliberately, let me confess. For we have too generally shifted the vegetable garden into the discard, if it has been considered at all. It is despised, in short, instead of being honored; and I aim to see it restored to its proper elevation in the general garden concept. For if this is not done by those whose opportunities have developed in them discrimination and taste, and recognition of values as well as the sense of responsibility, it will fall more and more under the ban in the minds of that great mass who advance only by imitation—and who imitate the least admirable, more often than not. So to the end that it may be thus elevated, I have gone afield to point out its ancient lineage and its true aristocracy. It occupies indeed the place of touchstone in modern gardening, by which sincerity shall be revealed as well as gauged. Let this never be forgotten.

Let us moreover never confuse this obligation to produce—and to apportion land so that the productive garden is accorded a worthy place—with the cost, in money terms, of the product. We have learned—or we have failed!—that it is not the money that food costs, but the *food* that counts in the last analysis. To be able to show actual food returns is therefore of far

greater importance than to show advantages in cost reduction, since production is the real basis of economic advance in any field of endeavor, and never the cheapness of the product.

It is understood, therefore, that I do not urge the vegetable garden as a feature of any place for the (problematical) results in saving money on vegetables; but that my urgency is based on that stewardship which I mentioned in the beginning. The determination to give a good accounting involves the neglect of no part—and least of all the neglect of so vital a part as the vegetable, or in the older terminology, the kitchen garden. Remembering that for long it entertained all that there were of flowers, and these only because they were used in flavoring or for distillation, we may easily restore its ancient prestige by restoring these—if it seems necessary to do this. But introduced in the right way and in the right relation in the general design, I contend that the modern kitchen garden needs nothing more than an understanding of its place and purpose and of its harmony with all the rest, to restore it to its own.

It must be approached practically however; and as the most impractical method of handling it is to overdo it, it follows that the most practical approach is the one that will insure doing

just enough—if such a thing is possible. Tests have resulted in establishing that it is. It is indeed quite as possible to estimate how much of each thing will be wanted during an entire year as it is to figure out an allotment of fuel; and further, to go back from this, and on the basis of estimated yield ascertain the number of hills or rows or plants of a given kind necessary to produce, within a few quarts or pounds, the required amount. Let us not start with generalities, therefore, but rather by determining first how much is wanted of each thing, and how much must be planted to yield this amount. Then keep the kitchen garden within these limits.

As a starting point we may take the three hundred and sixty-five days of the year which are to be supplied with materials for three meals each, per person. I will suggest eighteen standard vegetables to draw on, exclusive of salads, onions, and potatoes. These are beans, beets, cabbage, carrots, celeriac, corn, cucumbers, eggplant, kohlrabi, lima beans, okra, parsnips, peas, salsify, summer squash, spinach, tomatoes, and turnips. If allowance of one vegetable at dinner in addition to potatoes is made, it will mean a little more than twenty servings of each one of these during the year—or of course forty servings if two meals are being allowed for.

This brings the estimate to the point where each household must answer for itself the question of a "portion." It varies of course with different households and individuals; yet it is no great problem in mathematics to arrive at it, for any. If three bunches of beets, for example, or twelve ears of corn, are provided for a ménage of six persons, it means that two beets or two ears of corn are a single portion; wherefore the twenty portions of the year will be forty beets and forty ears of corn. Going thus through the entire list of vegetables that are to be planted, it is easy to arrive at approximately the proper total of every one; and from this the necessary amount for any household is discoverable by a very simple sum in multiplication.

A tabulated list of the vegetables suggested is given, to aid in arriving at an estimate of the amounts to be planted—which of course in its turn determines the space to be devoted to the entire project. It is not based on a single serving of each vegetable on twenty days of the year, but upon the doubling of this—that is, upon serving each one forty times. And of course it is to be understood that the perishable vegetables which cannot be canned are to be used during their season, while those which

may be preserved are put away against the season when nothing is available from the garden. As to the list itself, if put to practical usage, favorites may be increased in quantity, while those that do not recommend themselves are correspondingly decreased.

QUANTITY OF VEGETABLES TO PLANT PER PERSON

On the basis of eighteen kinds, each of which shall be served forty times during the year. At least one half of all produced, with the exception of the root crops, is to be canned or dried for winter. Production is to be kept up by close picking, which induces further bearing. All vegetables (except parsnips and salsify, which remain in the ground to be frozen in order to bring them to their full flavor) should always be picked before fully mature, to be at their best. The length of rows given is of course approximate.

<i>Vegetable</i>	<i>Amount Needed</i>	<i>Space to Plant</i>	<i>Distance Apart in Rows</i>
Beets	80 plants	25 feet	4 inches
Carrots	80 "	25 "	4 "
Turnips	40 "	12½ "	4 "
Parsnips	60 "	20 "	4 "
Salsify	80 "	20 "	3 "
Beans (pole)	20 quarts	2 hills	3 feet
Cabbage	5 plants	8 feet	18 inches
Corn	80 ears	25 "	10 "
Peas	4 pecks	60 "	6 "
Kohlrabi	80 plants	25 "	4 "
Tomato	90 fruits	3 plants	3 feet
Eggplant	10 "	2 "	3 "
Squash	10 "	1 vine	hills 4 feet
New Zealand Spinach	5 pecks	20 feet	18 inches
Okra	10 quarts	20 "	2 feet
Lima beans	10 "	4 hills	poles 3 feet
Cucumbers	90 fruits	3 hills	hills 4 feet
Celeriac	80 plants	25 feet	4 inches

It is a point of great importance to select varieties of each kind that will give the greatest yield *consistent with highest quality*, in small space. I speak especially and emphatically of this because the most prolific varieties are usually of the market gardeners' "quality"—which means that actual quality has been sacrificed to four things that market gardeners must have—or believe they must have—above all else, namely: earliness, shipping substance, tremendous yield, and fine appearance. If fine flavor accompanies these, it is so much gain; if it does not, it matters not to the commercial grower! In choosing seeds therefore avoid those kinds of which it is said they are favorites with truckers. Seek quality first and after this abundance—and forget the rest.

Without going over the devious ways by which the conclusion has been arrived at, I will say that six hundred square feet of ground will produce, under intensive cultivation, all the vegetables, including potatoes, that one adult will require for one year. As the latter vegetable occupied one third of this space—in the tests—it follows that four hundred square feet will suffice if potatoes are not to be grown; which reduces itself to a plot of ground twenty by twenty feet in size. Adding to this a fair

percentage for wastage, we may say that twenty-five by twenty-five feet is a generous unit per person, as the basis for estimating the amount of land it will be necessary to cultivate and give over to vegetables in maintaining a kitchen garden consistent with the demands of any given household. If potatoes are to be included in the list of vegetables grown, it is of course proper to grow them all together (in rows running the longest way of their section for convenience in tillage) on a separate allotment of two hundred square feet or a plot ten by twenty feet in size, for each individual.

In the preparation of the ground for the kitchen garden the advantage of using only the smallest area consistent with the needs of a household begins to be apparent. For both labor and fertilizers are concentrated, and the ground benefits accordingly—as well as the gardener. It is from every side therefore the part of wisdom to reduce the problem to its lowest common denominator; and to locate the space which is to be devoted to this extremely interesting and worth-while project where every activity connected with it will be best and most conveniently served. Wherefore it appears that, in the beginning, one must consider every end; and, as I have earlier and repeatedly pointed

out, must design *all together* and with due regard for every part.

Of actual vegetable culture it is not, perhaps, my part to say a great deal here, yet of the approach to this phase of garden making I may appropriately speak, since it is a part of general garden operations. Briefly, the steps to be taken are five in number: the measuring off of the plot and staking out, with allotment for paths and for any special features that may be intended; the applying to the ground thus set apart of fertilizer, preferably in the shape of well decomposed stable manure; the plowing or spading up, during which this is turned under; the application to the upturned and broken ground of a dressing of lime; and finally the harrowing or raking of all this surface until it is broken and fine and mellow for the reception of the seed.

Of the first—the staking out of the ground—let it be remembered that primarily it is to grow vegetables, and to grow them of the finest quality and to the highest point of development, with the least expenditure of effort. It must be brought to the point of highest efficiency, in other words—which implies that the gardener who tends it shall be able to manipulate his tools with perfect freedom and shall not

have his efforts impeded by any outside considerations. This demands the elimination of what some so enthusiastically recommend as an ornament to the vegetable garden; namely, the flower border. For a border of flowers crossing the ends of the vegetable rows means that, in passing from row to row with his wheel hoe, the gardener must always be hindered by the necessity of avoiding them. Even though he does not work with a wheel hoe—but how shall that be!—he still must watch his step as he approaches the end of each vegetable row, if the flower border is allowed.

Unquestionably the best vegetable-garden layout does not admit a border of any kind, unless this is wholly outside of the vegetable space, as in the case of its being on the outer side of a walk which extends around the garden. Such a walk is excellent; for crossing the ends of the rows it affords just the turning space which the gardener needs, whatever implement he is handling. Whatever the garden space, therefore, secure if possible this feature of a walk at the ends of the rows. If these are more than fifty feet in length it is well also to break them by a walk midway; for of some things considerably less than fifty feet of row will serve ordinarily. Avoid unusual forms in the layout

of the space, and always plant in rows rather than in beds. There ought of course to be a seed-bed space; and also space for hotbeds and coldframes, if full provision is to be made for the best work. But these are all assembled along one end or side, with the permanent vegetables for their neighbors—such things as asparagus and rhubarb—and so do not break up the main portion of the garden. This avoids interference with the permanent things when plowing is done, and preserves the units of the garden in the proper and efficient manner.

Whatever may be said, or may have been said at any time by anybody, of other fertilizers, nothing will ever supersede stable manure. Green manures should be used also, in the form of cow-peas, vetch, or rye, sown broadcast when the garden is harvested, to be plowed under with the coming of spring again; but the short-season of growth which intensive gardening allows these is not sufficient to provide, through them, all that the ground needs. Of commercial fertilizers always remember that, though they do what is claimed of them in many instances, they do it at tremendous expense to the land—and their use must be constantly carried on, once it is adopted. Whereas in countries as densely populated as China, farming and gar-

dening of the most intensive character have been practiced for thousands of years without a particle of these synthetic plant foods.

Ground bone, dried blood, and such products are not in this class of course. It is to those combinations of chemicals by which many—including many who should know better—set such store, that I refer. If land is well manured annually, lightly limed annually, and worked deeply before planting, and constantly on top after vegetation makes its appearance, it will produce without the stimulation which chemicals give it; and it will *not* become exhausted, no matter how many crops are taken from it, nor how abundant these may be.

The vegetable garden space ought never to receive less than four inches depth of manure each spring—and more in the beginning if it is poor land. This should be applied evenly as early as possible (not however in the autumn before!) and of course plowed under, or turned under by spading if it is a small garden plot, as soon as the ground is in condition to do this work. The best way of deciding as to when this time has arrived is to walk onto the ground and see whether it packs or not. As long as it is “mud” or even wet enough to be pressed down and printed by the foot, it is too wet to be

touched—and too wet to be walked about on, as a matter of fact. For nothing will work more lasting damage for the season than such packing of the garden soil into lumps in the spring.

Clods formed in this way simply cannot be eradicated all summer long, since they will take on almost the hard baked character of bricks. Actually the ground is not ready for working until a handful of it, squeezed energetically, crumbles apart when the hand is opened. Never let the forehandedness of another drive this from mind—for the garden that is not worked until it is fully ready, nor planted until the ground is warm and mellow, will grow enough faster to catch up with, and often to pass, the garden that is worked a little in advance of the safe season.

Plowing or spading, whichever method is used to break the ground up in the spring, should be deep—eight inches at least, twelve if possible. The latter is I know, even in agricultural operations, a greater depth than is usually considered possible; but if ground is worked over by hand, it is quite possible—and though it may be difficult, it is worth the effort, in alternate years at any rate. For a deep seedbed means plenty of deep moisture for the growing plants; and moisture deep down is food, since

only in liquid form is it possible for them to take nourishment at all. If ever so great efforts are made in the way of providing them nourishment therefore, and this one thing of keeping the moisture in the ground to hold it in solution is neglected, they must starve.

After the plowing comes the lime—and annually, enough of it to cover the ground lightly. Never be beguiled into a generous application one year in the hope of saving work the next; but put it on every year, in the proportion of about five pounds to one hundred square feet. Spread it as evenly as possible; and then proceed to the harrowing or raking which shall incorporate it with the soil at the surface, and at the same time shall break up all lumps and fine this upper layer until it is ready for the seed, and for the cordial encouragement of the tiny rootlets that must needs penetrate it in all directions when the seeds sprout.

Finally, let me urge orderliness in the planting of the seed. It has been said to me by a few successful gardeners—successful in that they are able to raise a great many things by spreading them over a great deal more land than is necessary—that straight rows and care in the matter of sowing seed are all nonsense. But such measure of success as comes with disorder

comes because of the abundance of nature and never through the intelligence of the gardener. And this is not the kind of gardening that we of to-day can be satisfied with. The kitchen garden deserves as much care to make it beautiful through perfect order, and through exact lines which express such order, as any other kind of garden or section of the garden. Disregard of these features is largely responsible for its disrepute, as well as for the slovenly care that it so often receives. Wherefore, observation of them will scatter both the indifference that results in neglect, and the disdain that scorns the finer attributes of appearance; and thus we shall not only bring the vegetable garden into its proper place of honor, but we shall add to all the rest that a garden means a happy consciousness of obligations discharged even as they are continually reincurred.

“Oh, Adam was a gardener, and God who made him sees
That half a proper gardener’s work is done upon his
knees,

So when your work is finished, you can wash your hands
and pray

For the Glory of the Garden that it may not pass away!
And the Glory of the Garden it shall never pass away!”

—*The Glory of the Garden*—KIPLING.

BIBLIOGRAPHY

Part I

CHAPTER

I. THE GARDEN'S PLACE IN CIVILIZATION|

- History of Gardening in Eng-
land AMHERST
An Encyclopædia of Gardening LOUDON
Old-fashioned Gardening . . TABOR
Gardens Ancient and Modern . DENT

II. POSITION AND PLAN OF THE HOUSE

- Village Improvement . . . FARWELL
The Home Grounds, Bulletin
361 CORNELL UNIVERSITY
The House Livable Series . . PUTNAM, Publisher
Economic Study of Farm Lay-
out CORNELL UNIVERSITY
Town Planning; Past, Present,
and Possible TRIGGS

III.-VIII. (inclusive)

- Landscape Gardening Studies PARSONS
Landscape Gardening . . . ROOT & KELLEY
Home Landscape Gardening
Books THE GARDEN PRESS
The Ideal Garden THOMAS
How to Plan the Home Grounds PARSONS
Practical Landscape Gardening CRIDLAND

IX. PLANTING AND MAINTENANCE

- Manual of Gardening . . . BAILEY
Four Seasons in the Garden . REXFORD
Amateur Gardencraft . . . REXFORD
The Pruning Manual . . . BAILEY

Part II

CHAPTER

X. TREES AND THEIR PURPOSE

- Manual of the Trees of North
 America SARGENT
 Care of Trees FERNOW
 The Romance of Our Trees . WILSON
 Field Book of American Trees
 and Shrubs MATTHEWS
 Key to Trees COLLINS & PRESTON
 Our National Forests (forestry
 study) BOERKER
 American Forest Trees (lumber
 study) GIBSON

XI.-XII.

Same as under III.-VIII.

XIII.-XIV.

- A Woman's Hardy Garden . . ELY
 Home Floriculture REXFORD
 The American Flower Garden . BLANCHAN
 Let's Make a Flower Garden . RION
 Color Schemes for the Flower
 Garden JEKYLL
 Hints on the Growing of Bulbs DREER
 Continuous Bloom in America . SHELTON
 Annual Flowering Plants, Bul-
 letin 1171 CORNELL UNIVERSITY
 My Garden WILDER

XV. ROSES AND THEIR SPECIAL CULTURE

- Roses (historical) PEMBERTON
 The Practical Book of Outdoor
 Rose Growing THOMAS
 American Rose Society Annuals

XVI. WATER FEATURES AND WATER FLOWERS

- Water Garden (Issued by DREER)

CHAPTER

Water Lilies and How to Grow

Them HUS & CONARD

The Book of Water Gardening . BISSET

XVII. ROCK GARDENS AND THEIR PLANTS

Rock Gardening for Amateurs . THOMAS

XVIII. WILD GARDENS AND WILD FLOWERS

The Wild Garden ROBINSON

XIX. FRUITS FOR THE SMALL GARDEN

The Principles of Fruit Growing BAILEY

Bush Fruits CARD

The Principles and Practice of

Pruning KAINS

XX. THE VEGETABLE GARDEN

Vegetable Gardening GREEN

Home Vegetable Garden . . . ROCKWELL

The Home Garden REXFORD

The Book of the Home Garden FULLERTON

The Principles of Vegetable

Gardening BAILEY

ALSO FOR GENERAL REFERENCE:

Diseases of Truck Crops and

Their Control TAUBENHAUS

Manual of Fruit Insects . . . SLINGERLAND &

CROSBY

Injurious Insects KANE

Spraying of Plants LODEMAN

Garden Guide DE LA MARE

The Garden Primer (elemen-
tary work)

TABOR

Garden Steps (elementary for
children)

COBB

The Complete Garden (material
for all sections)

TAYLOR

Johnson's Gardeners' Diction-
ary

JOHNSON



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